Drug & Cosmetic INDUSTRY

JUNE 1945

CONTENTS

KEEPING POSTED	713
NUTRITION AND GERIATRICS	718
COSMETIC EMULSION MANUFACTURE	720
TALC	722
REPACKAGING BLACK-DRAUGHT	725
EYE LOTIONS	726
HANDLING AMPULES	728
PACKAGING AND SELLING	731
NEWS	751
PRODUCTION FORUM	761
COMPOUNDER'S CORNER	774
ADVANCING THERAPY	780
INDUSTRY'S BOOKS	785
PERFUMER'S SHELF	788
PURCHASING DEPARTMENT	791

The Drug and Cosmetic Industry is published monthly by Drug Markets, Inc., Frazer V. Sinclair, President and Treasurer; Thomas R. Farrell, Vice-president and Secretary. Publication Address, 28 Renne Ave., Pittsfield, Mass., U. S. A. Editorial and General Office, 101 West 31st St., New York, 1, N. Y., U. S. A. Business Manager, Frazer V. Sinclair; Advertising Representatives, P. W. Alexander (on leave with U. S. Army), Walter M. Brauneiss, C. R. Keeley; Production Manager, Katherine Hyde; Circulation Manager, Harry G. Kelbly.

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THOMAS R. FARRELL, Editor

ELMER SHEETS, Managing Editor

FRANCIS CHILSON, Production Consultant

M. A. LESSER, Technical Editor

HARRY G. KELBLY, Market Editor

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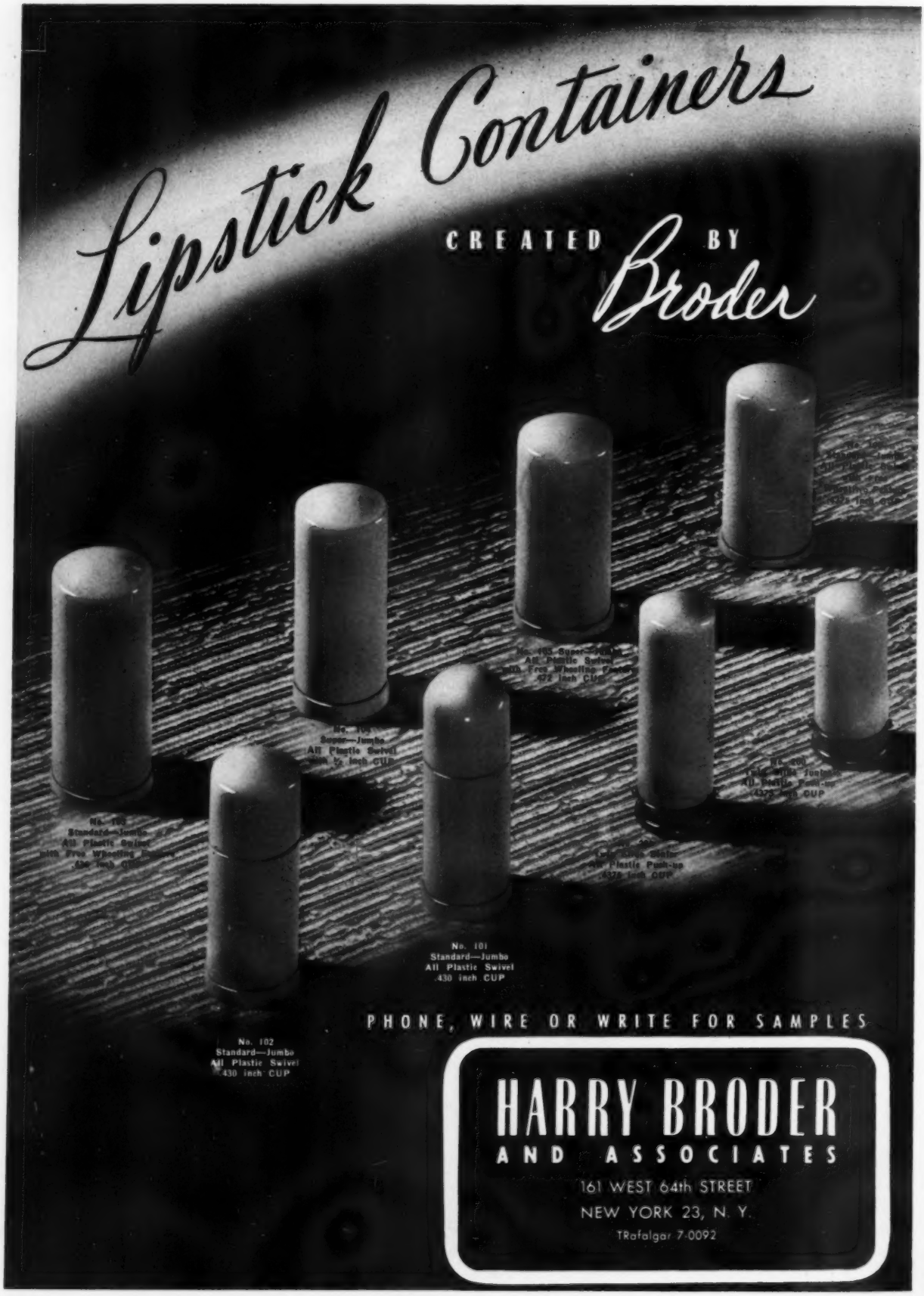
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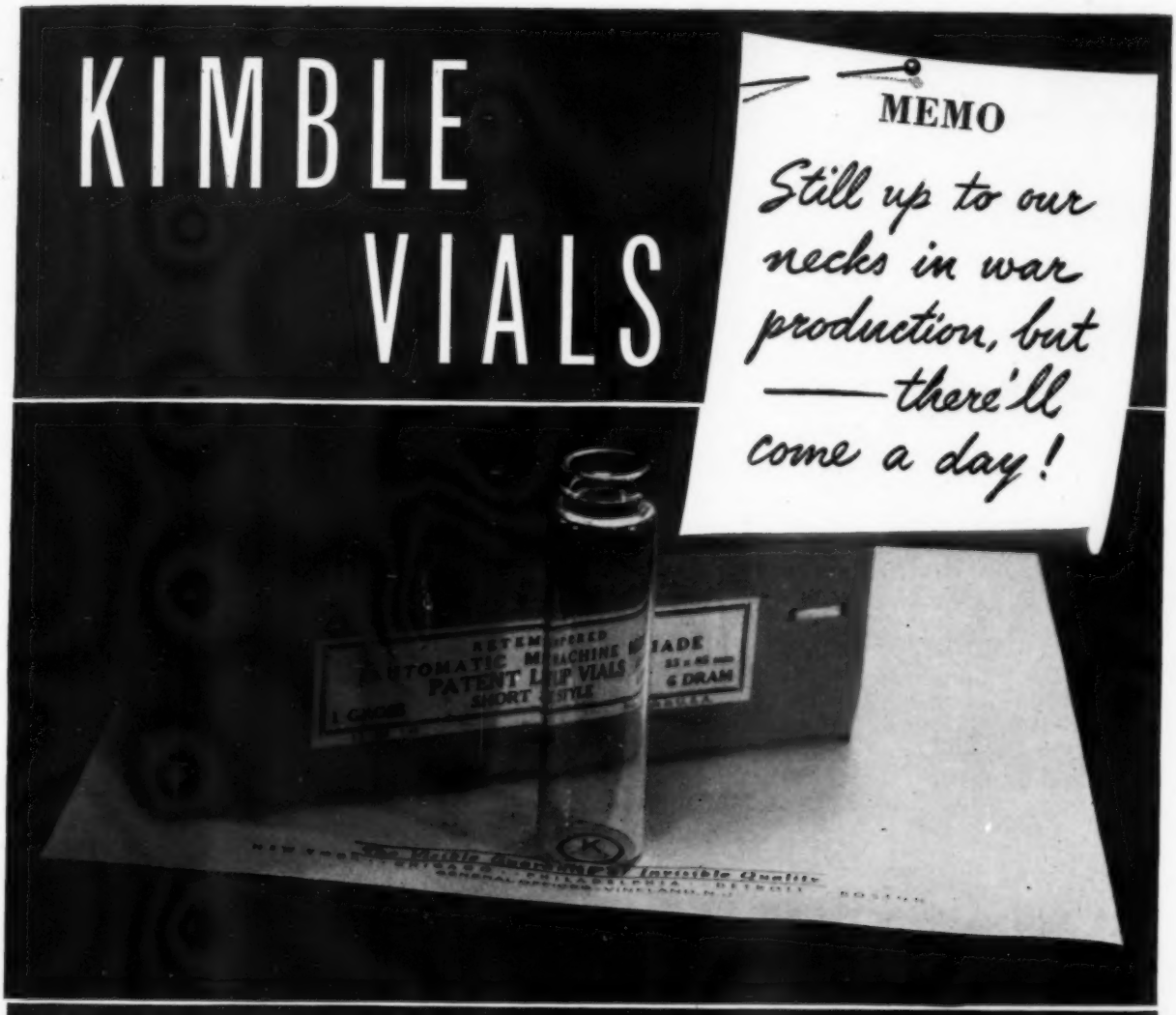
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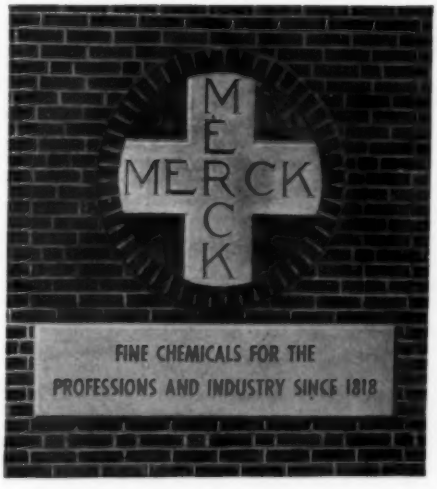
BUTOBEN can be used in acid and neutral products, as well as in moderately alkaline media. It is economical because of the small quantity required (2/100 of 1%), *i.e.,* only 1 ounce is required to preserve 35 gallons of a preparation. Suggested uses are in gum solutions for hairwave setting, and various types of liquid preparations, including face and hand lotions, cosmetic creams, medicinal elixirs, tonics, certain eye lotions, and emulsions.

BUTOBEN, while an excellent preservative for the aqueous phase of cosmetics, does not prevent rancidity of oils and fats, as this is not caused by micro-organisms, but by hydrolysis and subsequent oxidation, and for which purpose an antioxidant is required.

As many cosmetic and medicinal preparations are composed of several ingredients, some of which may be incompatible with certain preservatives, we suggest that you consult the Merck Chemical Service Department regarding your manufacturing problems and requirements.

Samples of BUTOBEN will be supplied to manufacturers on request.



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INSIDE NEWS

JUNE PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1945

Tin Cans Play Double War Role in Capturing a City

From the shells that open the ground attack on an enemy city . . . through the mines that are brought in for use if needed . . . many active and unusual roles are played by tin containers these days in helping bring about victory.

Because no other container protects like the can, tin containers are widely employed to give super protection to fulfill these objectives as well as many others. Naturally, new designs in cans had to be made, and the following are some of those developed.

57 MM Shell Containers

For packaging 57 MM shells, a special composite handling container was designed with tear strip for easy opening. The can is airtight so that humidity, salt air or dampness cannot affect the shells when in storage or transit.

For Fuse Mines

For ease and convenience, a tear strip, key-opening container with component supports for package mine fuses has been devised. This container is also hermetically sealed to protect its delicate contents.

National Can Corporation is proud to have a share in supplying such tin containers to our armed forces. Manufacture of cans such as these, and many others, has naturally intensified the research and laboratory work at National Can. This widely diversified experience promises in peacetime years to bring forward containers that are better . . . containers of unusual design . . . containers for new products requiring different kinds of protection. Then, the experience we will have accumulated will make easier the job of keeping your good things good longer. 986

Super Glue Shows Superior Strength

A new synthetic adhesive is a super glue which can be applied to metal or wood and has enormous strength. It has been used successfully in place of rivets on airplane fuselages. The adhesive bonds are formed under heat and pressure. 987

Vitamin C Held in Canned Grapefruit Juice

The question of how well canned grapefruit juice holds its vitamin C is an important one to the housewife and to the canner who stores the canned product. Recent tests show that canned unsweetened grapefruit juice stored in 12 canning plants after two months still held 95 per cent of its vitamin C; at the end of four months, 90 per cent; and at the end of six months, 83 per cent. Storage room temperature was 78° F.—as high or higher than the average temperature that could be expected in the average home kitchen or pantry. 988

Saving the Beans

Beans produced in Maine are an important contribution to the wartime food supply. But hampering the harvest are beetles which are the most destructive insects affecting this crop. Mexican bean beetles are renegade members of a beetle family—the ladybird beetles—of which most members are beneficial. The outlaw can be recognized by the arrangement and number of black spots, since the bad beetle has 16 and the good beetle has one less. But counting spots is not the solution to the problem. The technique is to outwit the 16-spot variety by leaving space between the plants, by systematic spraying, by planting late enough to escape early summer infestation, and by destroying weeds, grass and infested vegetation in the vicinity of the bean plantings. Some of the canners have cooperated by supplying the farmers with suitable spraying equipment. 989

Liquefied Gases

A number of liquefied gases have been found after study to be adaptable for use as dispersants in connection with the application of insecticidal aerosols. Methylene chloride seems to be most practical either as a substitute for other liquefied gases in some applications, or as a diluent for them in others. Methylene chloride is practically non-toxic and non-flammable, and is an excellent solvent for insecticidal ingredients. 990

Red Coloration in Fish

Red coloration in some canned mackerel caused some alarm on the Pacific Coast last fall. Careful investigations showed that neither injection nor feeding the large quantities of the red coloring material had any effect on test animals, so that all danger of toxicity was eliminated. The problem of preventing a recurrence of the phenomenon remained.

Chemical tests suggested that the coloring material is identical with astacin, which is responsible for the red color in boiled lobster and is widely distributed among other marine organisms.

The red pigment was present in the intestines of the horse mackerel, but not in those of the Pacific mackerel, even when both were caught in mixed schools. It was impossible to identify the organism responsible.

Since it is known that this problem may arise, inspection can be relied on to prevent mackerel carrying these undesirable crustacean remains from going into the cannery cleaning lines. 991

What'll You Have?

A sealed waterproof bag included with each shipment contains directions for transforming canned vanilla ice cream mix into any one of eight special desserts for overseas troops in areas where organized messes can be set up. Dehydrated fruit juice powders, canned fruits, candies and flavorings all contribute to the variations. Suggested flavors are chocolate, lemon, fruit cocktail, peach, coffee, maple, pineapple and hard candy. All are delicious.

It is noteworthy that improvements in rations are in the hands of personnel who have had experience living on rations, and are checked by taste and preference tests among the men for whom the rations are intended. 992

Keep It Dark

If light rays below 4900 Angstroms are kept from the product, fruit and vegetable juices will remain fresh for long periods, according to an inventor who has recently received a patent.

He claims that the deleterious effect of light rays upon fruit and vegetable juices is practically instantaneous, and that once juice is exposed to ordinary light certain chemical changes are initiated that can not be prevented by any subsequent treatment from causing deterioration.

When juice is extracted in complete darkness or in light containing no waves below the critical value of 4900 Angstroms, the juice will remain fresh. Flash pasteurization and canning, still without exposure to the harmful range, is preferred, but low temperature storage in bulk containers for distribution from retail outlets is also envisioned. 993

Combat Cosmetic Cream

A cosmetic cream, employed by Navy gun crews, and GI's using bazookas and flame throwers to prevent burns, will probably have a postwar use by community fire departments. Applied like a beauty mask, the cream dries quickly and can be removed easily with soap and water. 994

"K" Rations Getting Better

Variety in ration packs continues to improve. The man depending on "K" (pocket) rations now stands a good chance of lunching on fried ham, fried pork, pork and beef, chop suey or solid-pack chicken—all canned, of course. 995

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PLANTS: NEW YORK • BOSTON • BALTIMORE • CHICAGO • HAMILTON, OHIO • FORT WAYNE, INDIANA

New Insecticide

Information on a safe, economical and effective insecticide has recently been released. Endorsed by many Agricultural Experiment Stations, this new insecticide is reported to be highly successful for destroying thrips, leaf rollers, and other chewing insects infesting vegetables of all kinds, ornamental crops such as roses, gladioli, chrysanthemums, carnations, dahlias, as well as miscellaneous garden flowers where the underground portion of the plant is eaten.

The active ingredients of the insecticide are antimony and phenol. Although poisonous and toxic, it will not affect water soluble chlorophyll and is suitable for outdoor as well as indoor use.

In liquid form, the insecticide is easily handled and dissolves readily without heating. It does not injure plants when used according to directions, and does not discolor foliage. During hot, dry periods it is completely effective and can be stored for long periods without losing effectiveness. 996

Core Sampling Fish Livers

In core sampling fish livers it is important to obtain a sufficient number of cores to be representatiave of a batch of livers. Experiments run by the Federal Fishery Laboratory indicate, under average conditions, a minimum of 100 cores is required with most species of fish if a precision of 95% or better is desired.

This laboratory has built a drill sampling device and has released the constructional details and instructions for use. The sampler is designed specifically for use with livers in the standard five-gallon can. It has given good results on fresh, unfrozen livers, and will work well with soft-frozen livers. Sampling of hard-frozen livers, however, would require a more powerful motor. 997

Yeast Goes to Russia

Brewer's yeast tablets made palatable by debittering, contain all members of the B vitamin complex, together with a high and readily assimilable protein portion. One of the enthusiastic users is the U. S. Marine Corps. Another is Russia. Millions of 7½ grain tablets have been shipped there in tins containing 1000 tablets each. It is believed that these go to the armed forces. 998

Herbs and Spices for Meat

Twenty to thirty herbs and spices are used in the meat packing industry. These are allspice, anise, bay leaves, cardamon, celery fruit, caraway, celery salt, cinnamon, cloves, coriander, cumin, fennel, ginger, mace nutmeg, marjoram, mustard, oregano, paprika, black pepper, chili peppers, cayenne, white pepper, sage, thyme, turmeric and rosemary. 999

Technical Topics

SIZING MATERIALS—New sizing materials and wood sealers are made by reacting crotonic acid with isobutylamine, according to a recent patent. These resinous materials are soluble only in alcohols and are insoluble in water, acetone, toluene, or mineral spirits. 1000

IMPROVES GLOSS IN PAINT—Benzoic acid, added to paints containing zinc oxide, is said to improve the gloss of the film and facilitate the removal of brushmarks after application. It is thought that the acid acts as a surface-active material, probably by interaction at the surface of the zinc oxide particles to form a surface layer of zinc benzoate. The acid also appears to improve fluidity. 1001

CHROMATED ZINC CHLORIDE PROLONGS FENCE POST LIFE—Chromated zinc chloride can now be used to make nondurable fence posts, such as those made of the lower grades of green pine, relatively lasting. No one knows how long posts treated with this chemical will last, but a southern college reports that a recent examination of sap pine posts, which have been in the ground nearly six years, showed 85% sound. Untreated posts are usually destroyed in two years. 1002

SOAP AS A DISPERSING AGENT—Soap is reported to be employed as a dispersing agent in the manufacture of adhesive compositions from rubber latex. 1003

SOAP FOR INSULATION—Soap is reported to be the main constituent of a paste used in an active insulating composition. The compound consists of a paste and a strong, light-weight and fire-proof mortar body. 1004

STABLE ROTENONE INSECTICIDE—A method of making a stable rotenone insecticide through the use of a clear potash soap with an aqueous solution of potassium pyrophosphate added to form a jelly was recently announced. 1005

TENT AND AWNING PRESERVATIVE—A patent, recently issued, covers a preservative for tents and awnings which utilizes a polychlorophenol in combination with a finely divided solid thermoplastic vinylidene chloride resin. 1006

NEW LECITHIN SOURCE—Cotton seed has been found a source of commercially profitable lecithin. 1007

SOAP FILM PREVENTS CORROSION—A process for putting a soap film on metal to prevent corrosion has recently been granted a patent. 1008

MEXICAN OIL—Seeds of Garcia nutans, a small evergreen in Eastern Mexico, yield from the kernel 55% of an oil equal to and superior in some respects to the finest Asiatic tung oil. 1009

ALGINIC ACID RAYONS—Both soluble and insoluble rayons are reported being made from alginic acid extracted from seaweed. Unusual designs in lace are possible, using the soluble rayon to hold the twist in threads, the rayon dissolving after the weave. 1010

METHACRYLATE RESINS STRENGTHENED—Itaconic acid is expected to be used for strengthening methacrylate type resins as a result of a new process which has been developed whereby the acid will be made from corn sugar. 1011

VERMICULITE—New uses for the vermiculite mineral are being developed as a result of wartime conditions. It is now suggested as a substitute for flaked graphite in lubricants and as a replacer of aluminum stearate in lubricating oils. Another suggestion is to use it as an extender in gold or bronze printing inks. 1012

SYNTHETIC PIGMENT—It has been announced that a new synthetic pigment was developed that is comparable with natural red iron oxide. It is reported to be available to paint and varnish manufacturers. 1013

LUMINESCENCE RETAINED—The blackening and loss of luminescence which commonly occurs in luminescent pigments upon exposure to the atmosphere can be reduced or overcome by incorporating an alkaline wetting agent in the paint. 1014

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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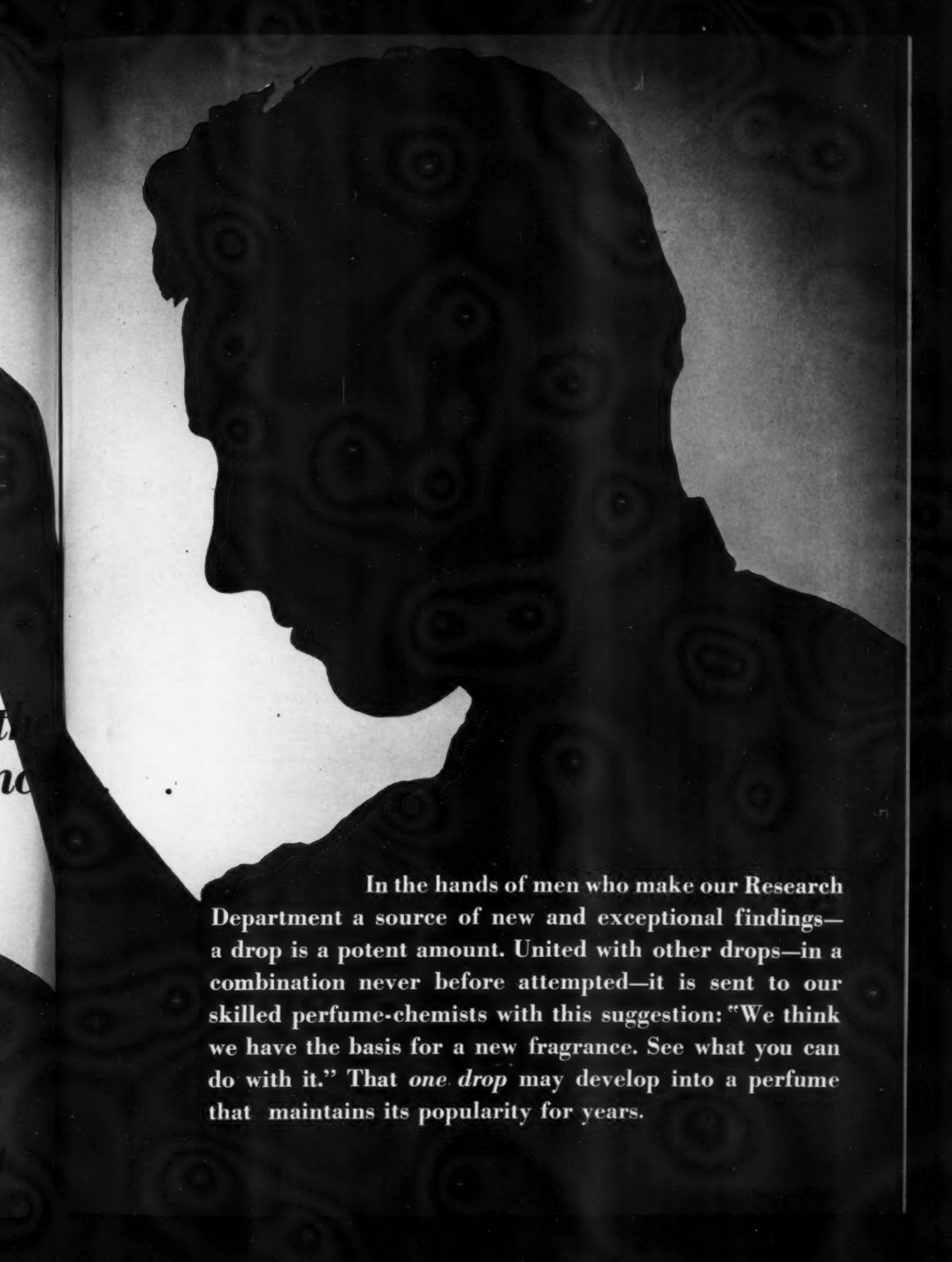

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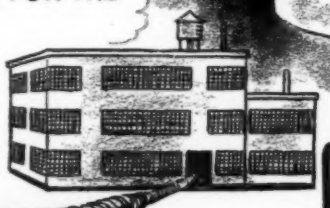

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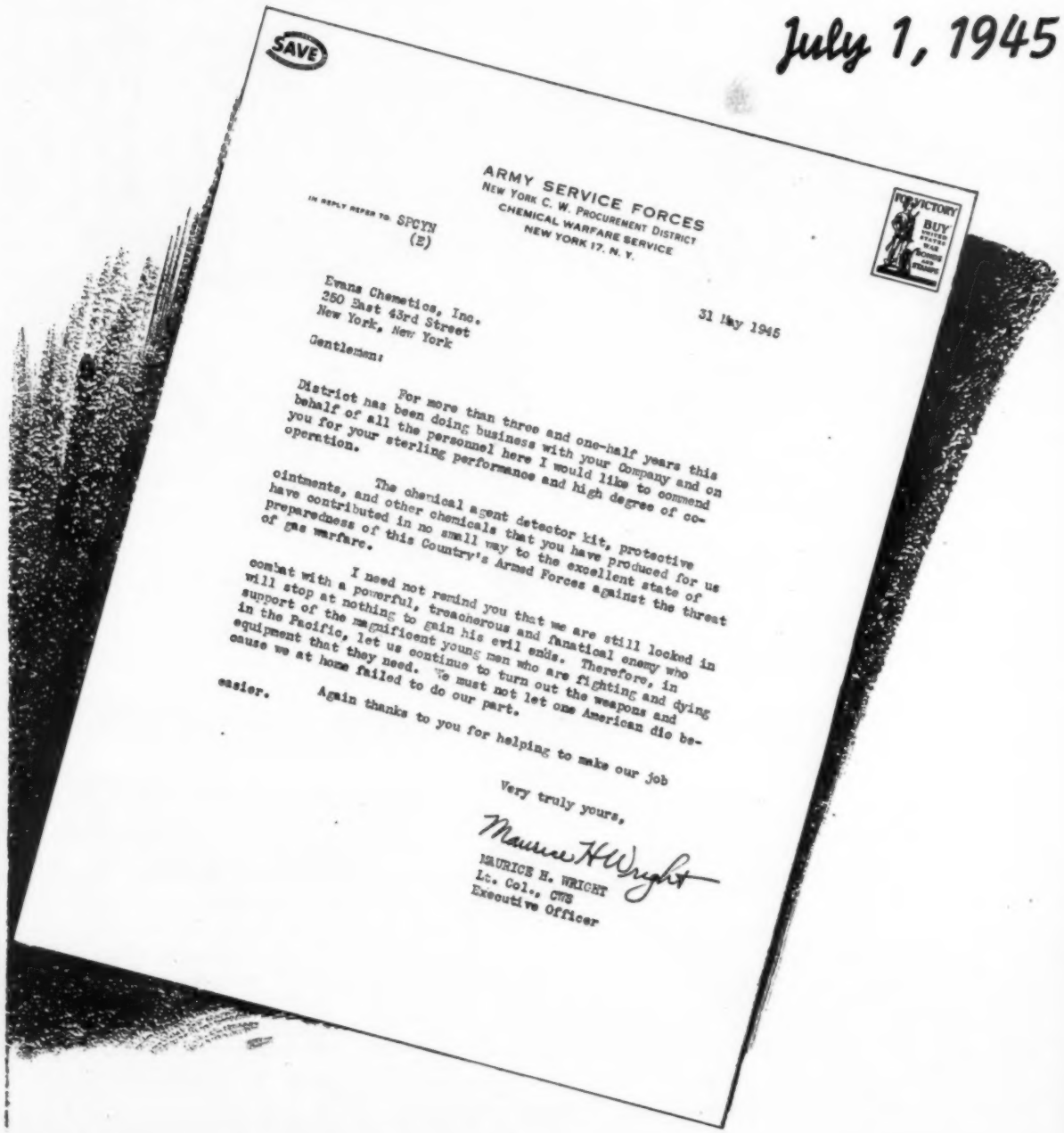
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All products made by L & K Laboratories are fully covered by Product's Liability Insurance

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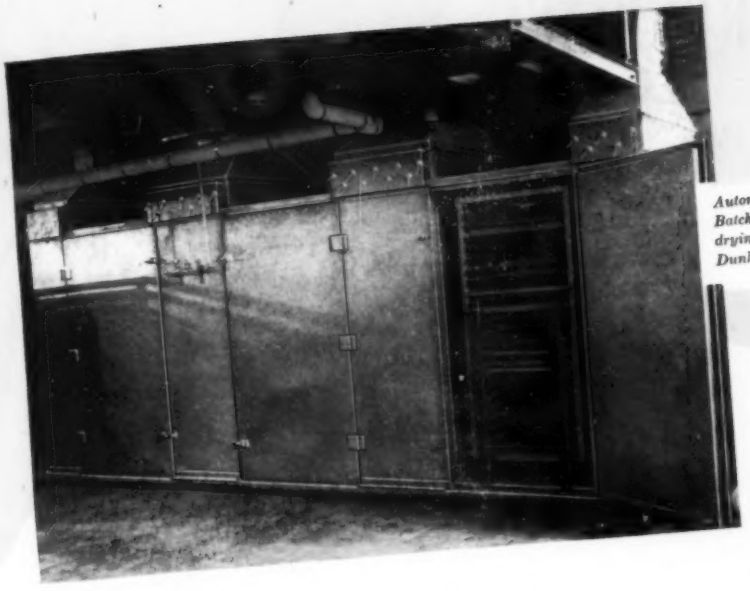

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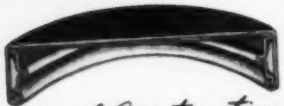
Meritseal is by far the most beautiful cap in the popular price field. Trim and smooth . . . no visible threads . . . handsomely lacquered or lithographed in color . . . its appearance is fully in keeping with the finest cosmetic products.

The outstanding good looks of Meritseal result in part from its novel construction. Its construction also gives Meritseal several mechanical advantages. Meritseal caps rotate freely when applied to a jar, thus saving time on the production line. They seal air-tight, yet are easy to remove because there is no wedging action.

In every respect, Meritseal is a highly satisfactory cap for cosmetics. Scores of cosmetic manufacturers have standardized on Meritseal and are delighted with it. Samples, full information and prices will be sent gladly on request.

CROWN CORK SPECIALTY CORPORATION
DECATUR, ILLINOIS
Division of Crown Cork & Seal Company



Novel Construction

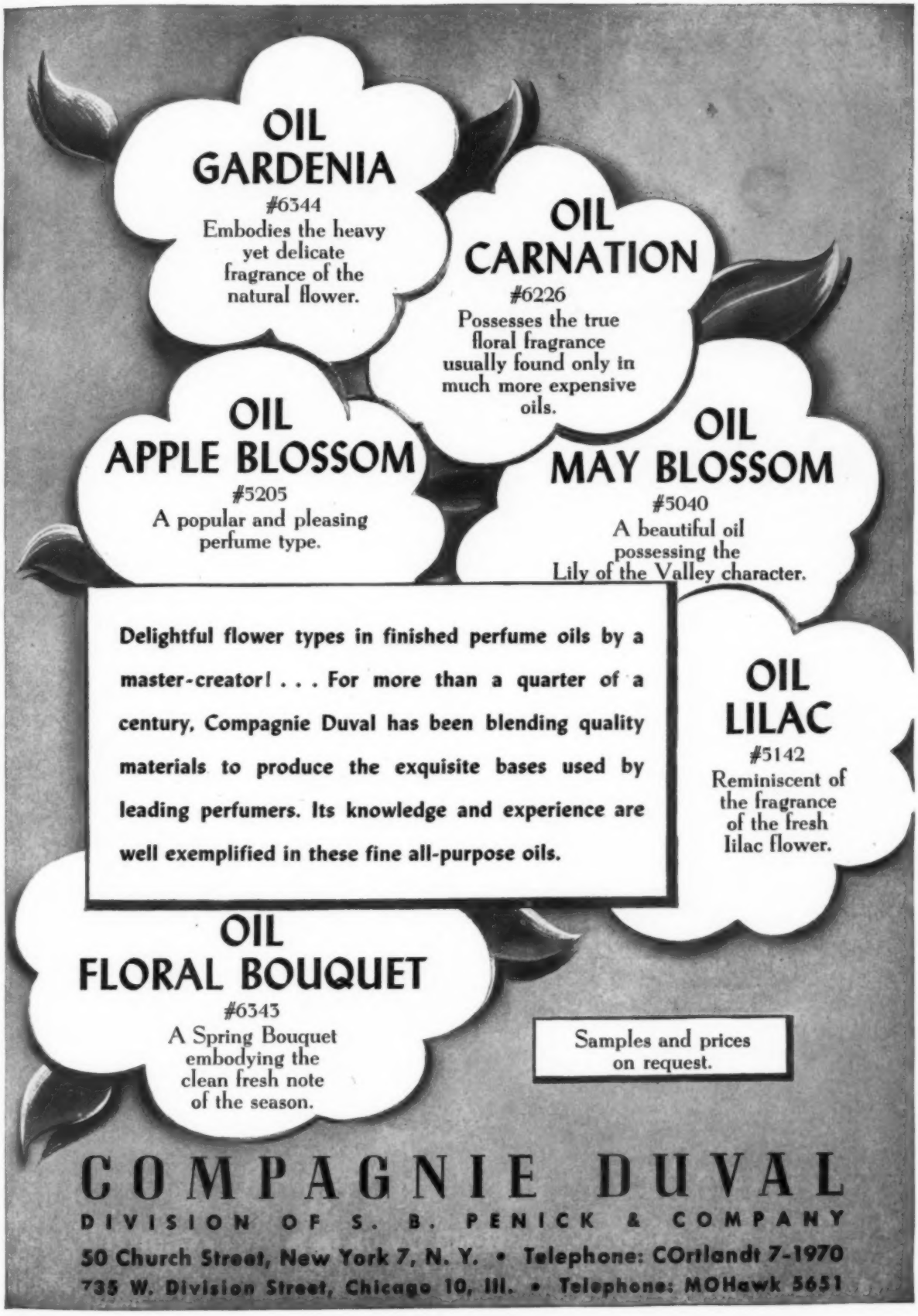
Meritseal consists of a shell fabricated from sheet metal, into which is inserted a suitable liner and a thread made from a non-corrosive strip of metal. The thread is formed into a ring and assembled into the shell, holding the liner in position. The lower edge of the shell curves inward, locking the thread in place.

Special Thread

In the Meritseal thread, the metal is not drawn or stretched. The top ledge is flat, engaging the under side of the glass thread at its lowest point. This allows the liner to seat itself evenly and prevents the wedging condition which occurs so often with conventional screw caps.

Seals tightly . . easily removed

Meritseal Caps are easy to apply and make an absolutely air-tight seal. Yet, because they rotate freely on the glass threads, they are always easy to remove.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OIL
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A beautiful oil possessing the Lily of the Valley character.
Delightful flower types in finished perfume oils by a master-creator! . . . For more than a quarter of a century, Compagnie Duval has been blending quality materials to produce the exquisite bases used by leading perfumers. Its knowledge and experience are well exemplified in these fine all-purpose oils.
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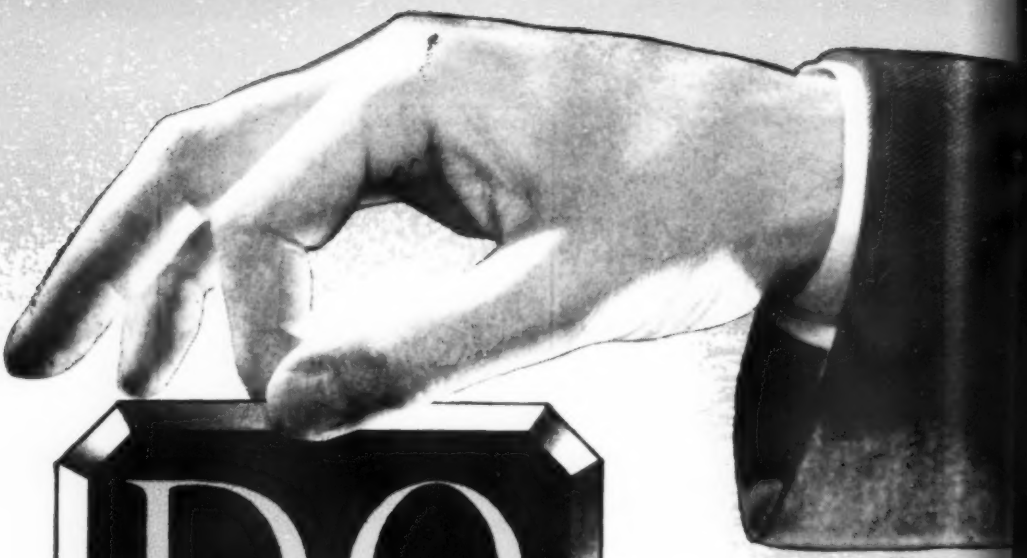

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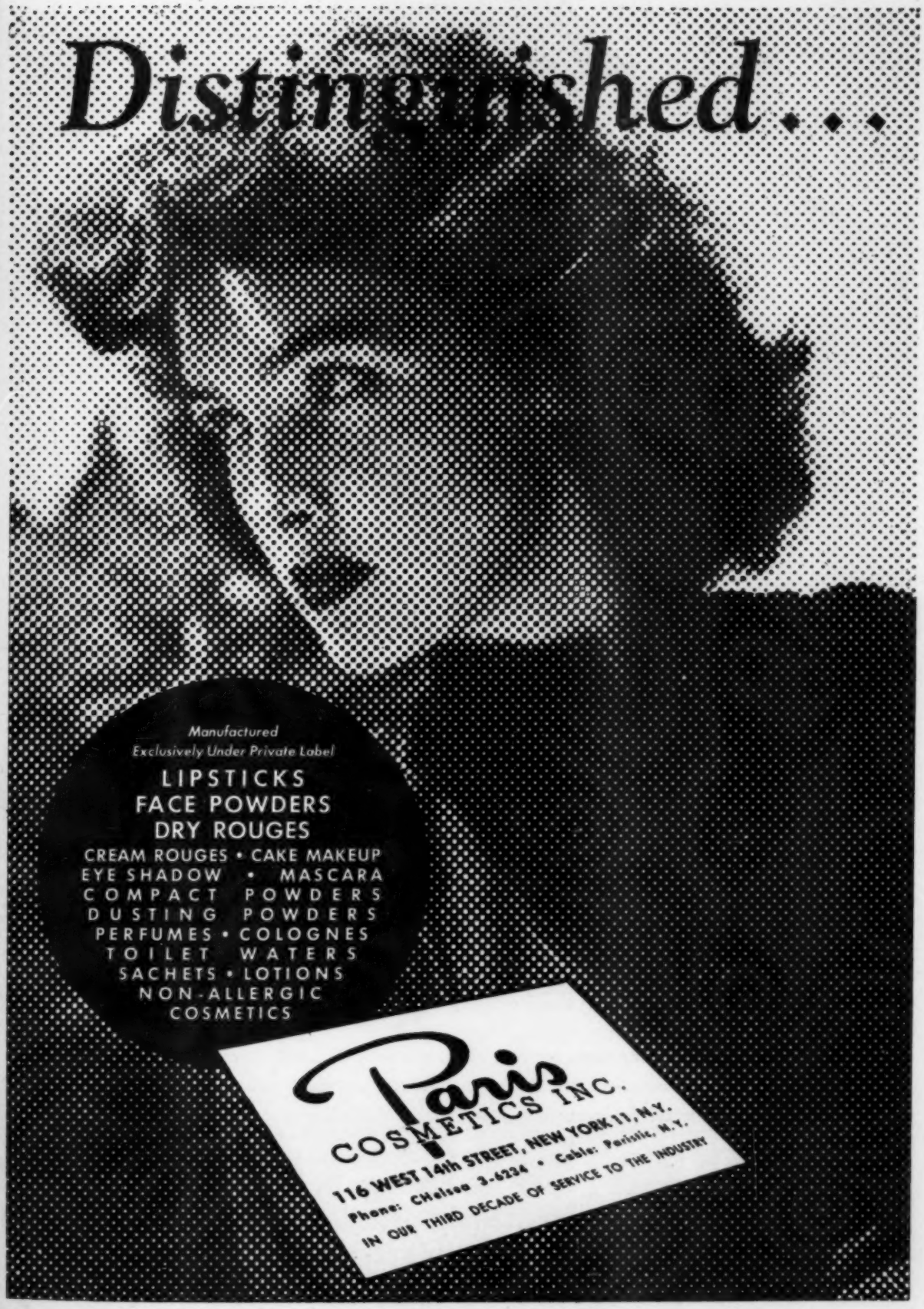
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Like the lass in the old ballad, La Bonita packages convey at a glance "the elegant air" that should hallmark a *good* cosmetic. The secret is in the subtle coloring of the handsomely lithographed Caps made for House of Hollywood by Aridor. Let Aridor provide an *EYEdealized* Cap design, produced with unsurpassed skill, to lend "the elegant air" to your packages.

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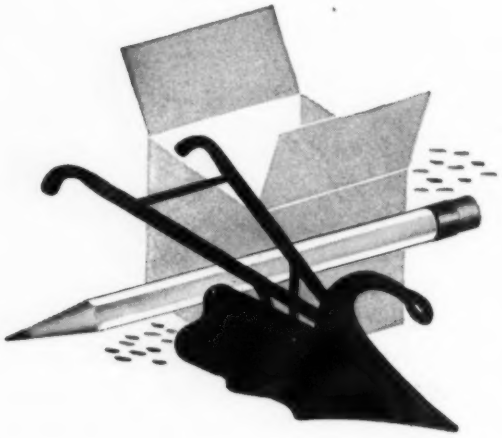
In 1896 This famous package took the cracker out of the barrel. Made by Gair, it was the paper box that actually revolutionized food merchandising.

In 1942 This noted package took the balanced ration of the mess hall into the fox hole. It provided a hazardproof meal under any emergency. Tens of millions of these life saver containers were manufactured by Gair.



In 195? Tomorrow's packaging problems are being solved today by Gair ingenuity. The principles of packaging that are meeting rigid wartime standards, will be utilized in packaging everything from pencils to plowshares.

For 80 years, Gair has been a major contributor to the scientific art of packaging. Many of the great industries of America and the world have turned to Gair to solve their packaging problems. Many an obscure product has achieved international distribution due to the ingenious packaging ideas of Gair. The paper box for Uneeda Biscuits back in 1896, is but one example. And out of the necessity of this great war, Gair engineers have developed amazing contributions in packaging everything from blood plasma to airplane parts.

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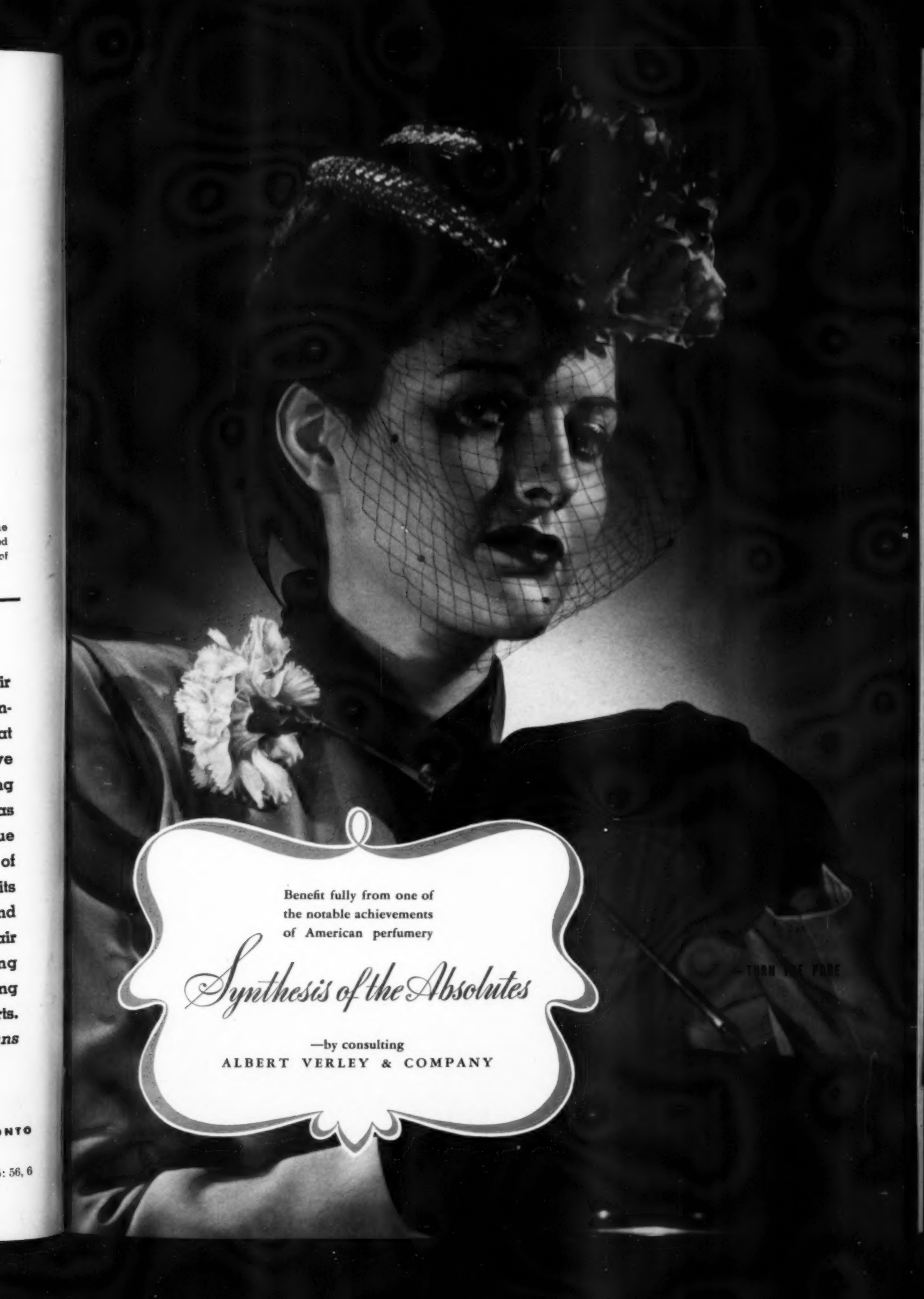
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Synthesis of the Absolutes

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JASMIN BLOSSOM "V" Never before has the reproduction of this indispensable flower reached the heights of beauty and fidelity attained in this creation.

ORANGE BLOSSOM "V" A complete substitute for the natural product in all forms of perfumery.

A selection from our many other recreations of the Absolutes (See our handbook "Aromatics," starting on page 27):

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This is a development of tremendous significance to the present and future prestige of American perfumery . . to its ability to stand preeminent in a world of renewed competition.

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Investigate these products, as a part of your program of post-war product development. Avail yourself of our complete service—including materials in any desired stage of fabrication up to the finished composition, comprising all of the major odor classifications. We shall be glad to discuss your problems in confidence, without obligation. Write for working samples and prices.

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Now there are other minutes which the world *cannot* afford to lose—those precious minutes which will hasten the return of a normal, happy way of living.

And in hastening the return of the day when women can once again fulfill their desire for fine cosmetics and toiletries, no time should be wasted. Plans which you have been formulating for post-war days *must* be put into effect *at once!*

So that no lost minutes may be experienced by old and new friends, Allied has instituted a new and timely service. This is the Allied Research Laboratory, whose findings may help overcome much costly and time-consuming experimental work.

You may call upon us to assist you in speeding your plans into early operation. We urge that you make arrangements at once so that no minutes will be lost. Write, wire or phone today for an appointment. You will find such consultation constructive and profitable.

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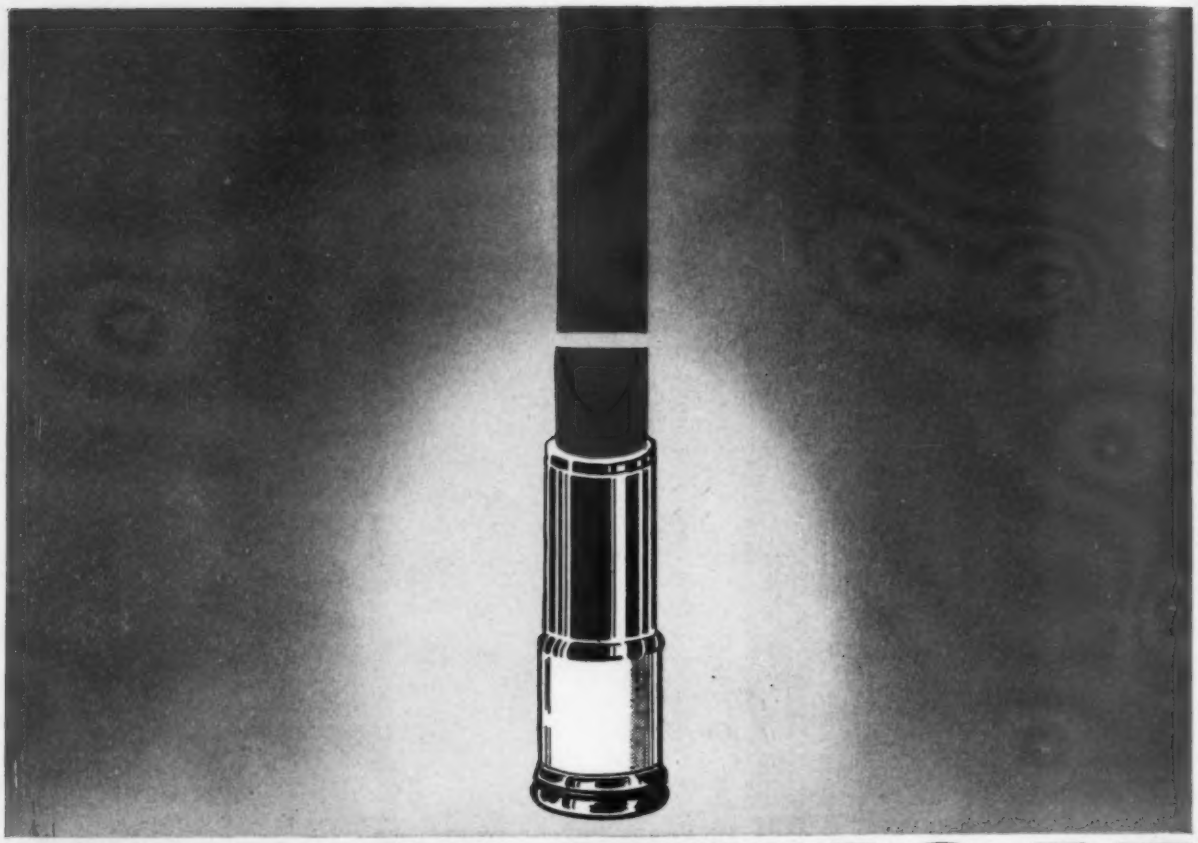

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Durlin's reputation lies in a customer service that has paid big dividends to the many users of their *Nail Enamel. Durlin* color sense, shown by an early awareness of fashion trends, selection of colors and aid in packaging has many times helped customers to that "extra edge" which brings success.

When you think of *Durlin Nail Enamel,* think also of *Durlin Service.*

DURLIN CO.

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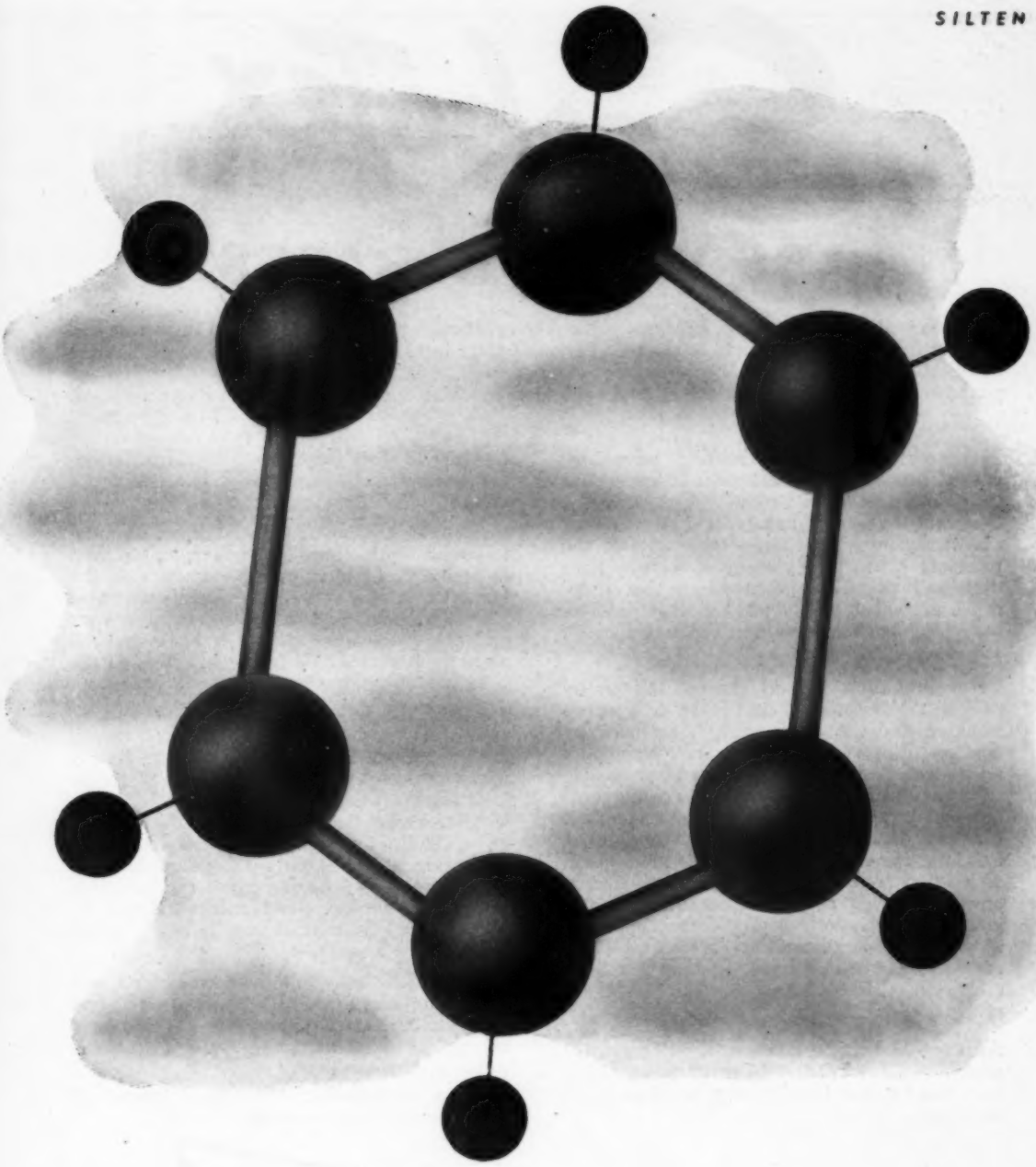
SILTEN



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Sorbotex

ABSORPTION BASES

The secure place that Sorbotex Absorption Bases have established for themselves and their wide and constantly increasing use reflects the recognition of their intrinsic advantages. These advantages manifest themselves in the form of ease of manipulation, elasticity of formulation and in the appearance, stability, and effectiveness of the products in which Sorbotex Absorption Bases are used.

★ ★ ★

An important and distinguishing advantage offered by Sorbotex Absorption Bases is that they do not contain Lanolin. Consequently, they will not turn rancid. Nor will they eventually impart an undesirable odor to the products in which they are used or cause their discoloration. Their water-absorption properties are substantially greater than those of absorption bases containing Lanolin or Lanclin Isolates.

Other important advantages are offered by Sorbotex Absorption Bases: they give emulsions a high degree of immunity to temperature changes; they are compatible with practically all materials used in cosmetics and are stable to acids, alkalis, and to electrolytes and organic acids in general, such as aluminum salts, sodium or potassium sulfite, etc.; they impart an attractive sheen or gloss to the products in which they are used; they prevent shrinkage in creams as well as the formation of water globules on the surface of creams; they melt at body temperature; they are suitable for emulsions containing either vegetable or mineral oils. They have excellent emollient properties.

Sorbotex Absorption Bases make white, stable water-in-oil emulsions. In small percentages, they can be used to advantage in oil-in-water emulsions.

In order to meet varying requirements, Sorbotex Absorption Bases are made in a number of types:

SORBOTEX 100-C. Our original cholesterine absorption base that has long been used in many of the outstanding cosmetics on the market. It has very high emulsifying value and is particularly suitable for night creams and other cosmetics in which Cholesterol is desirable because of its beneficial action on the skin and tissues.

SORBOTEX 301. A new development in absorption base that has attracted much interest among cosmetic technicians. It is a white ointment-like odorless mixture of higher fatty alcohols and esters in a hydrocarbon base. It does not contain Cholesterol. In the presence of an alkali, it is an effective emulsifying and stabilizing agent for oil-in-water emulsions, an advantage offered by few types of absorption base. An additional advantage offered by Sorbotex 301 is that it can be used as an Extender for Lanolin.

SORBOTEX 200. Contains cholesterol and unites the properties of Sorbotex 100-C and Sorbotex 301. It has the great water-absorption properties of the latest types of synthetic water-in-oil emulsifiers.

Samples of Sorbotex Absorption Bases will gladly be sent upon request.

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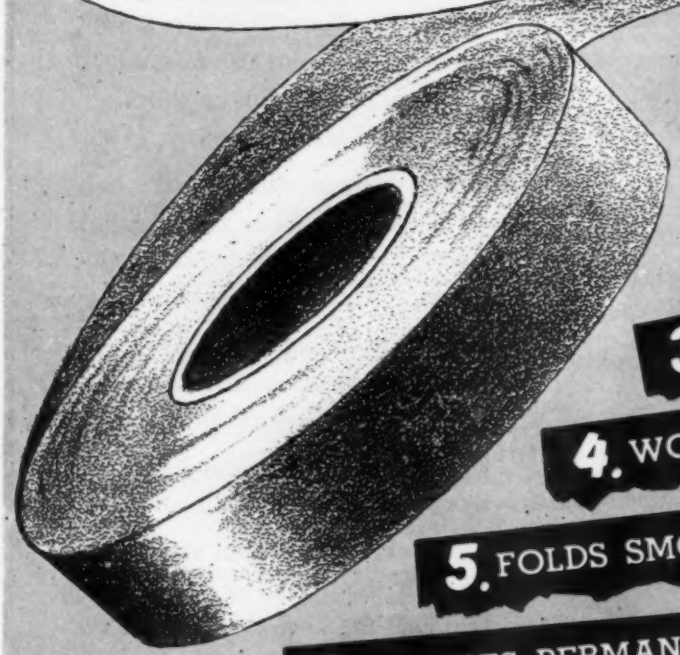

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3. SEALS CLEANER!
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5. FOLDS SMOOTHER!
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Here's the amazing, improved gummed sealing tape that means better, more economical packing and shipping for you. VIPACO "6-Action" gummed tape is stronger, yet less bulky . . . a specially prepared glue gives even overall coverage and won't side-slip . . . unusual flexibility allows for gripping around corners . . . it sticks instantly without added pressure.

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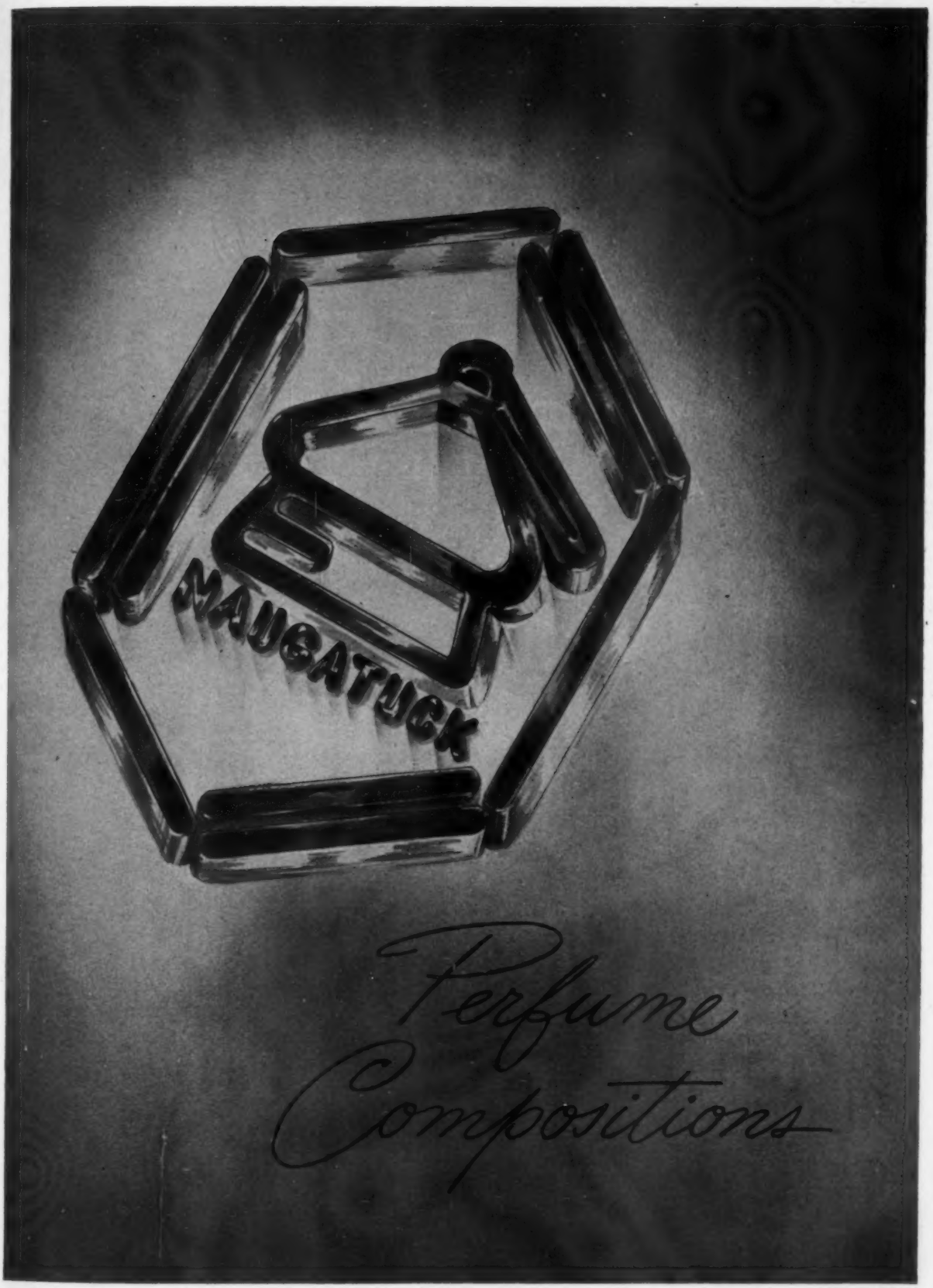

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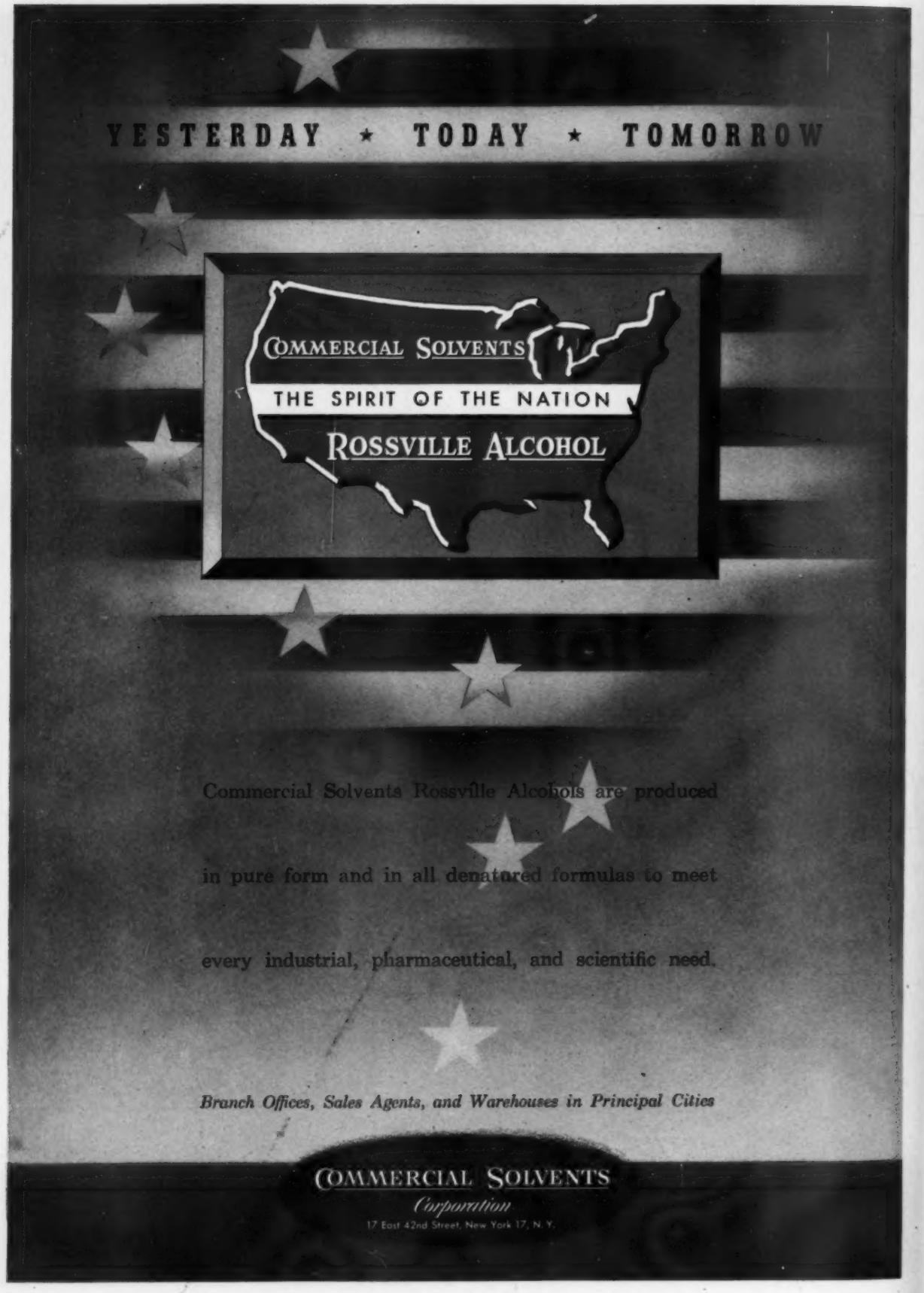
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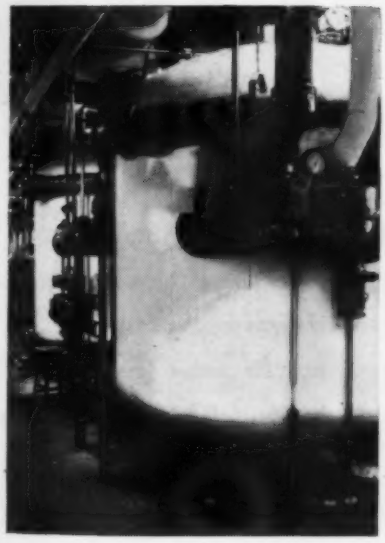

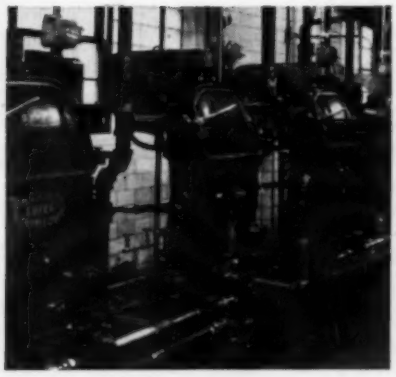

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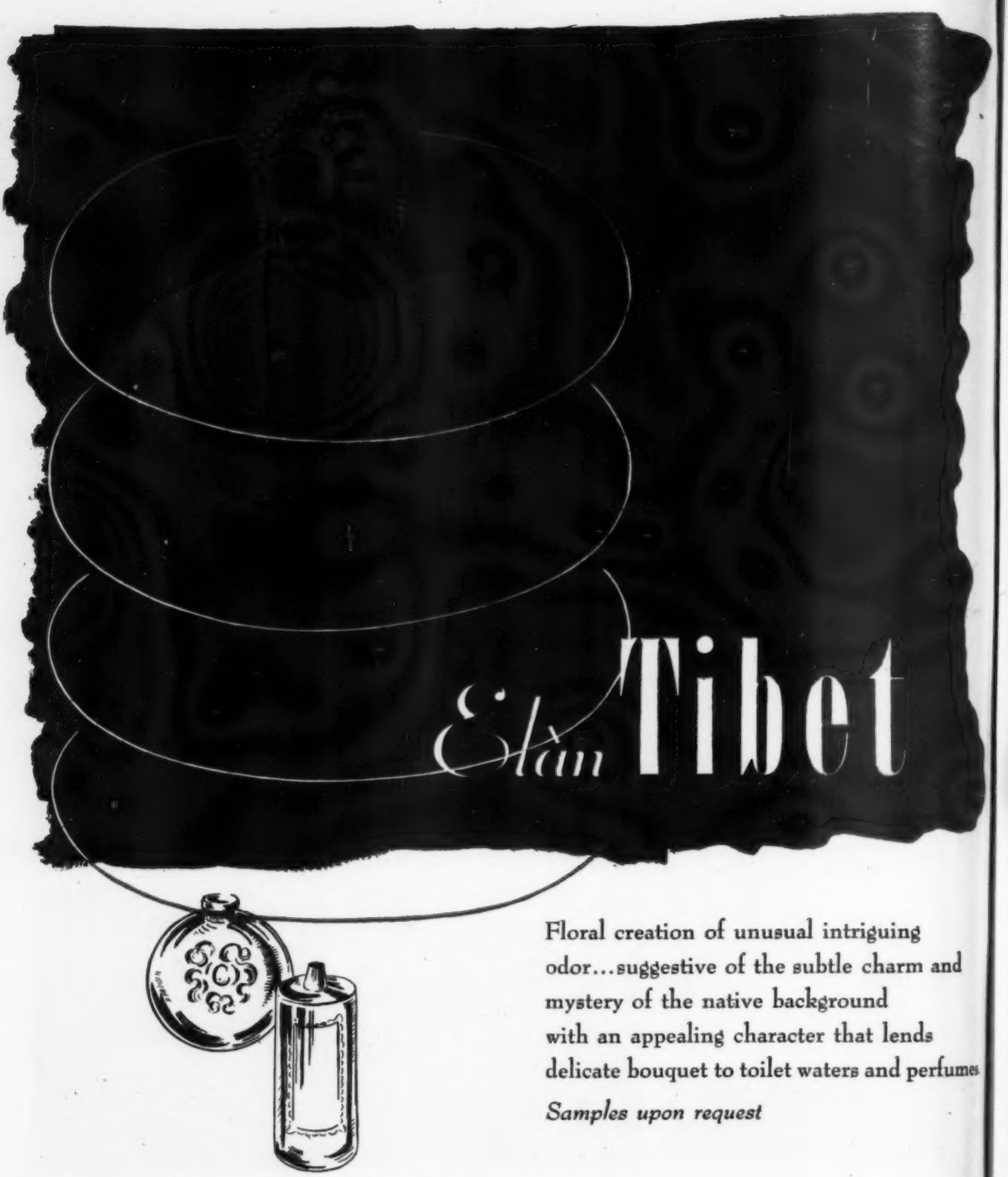

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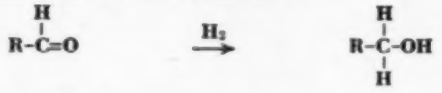
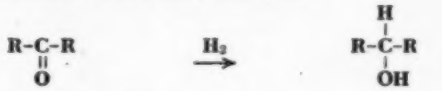
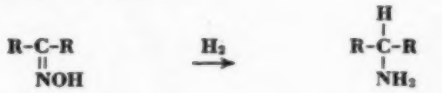


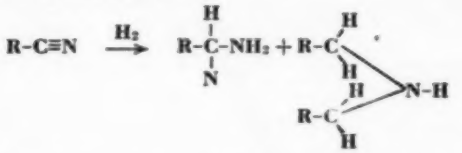
2. Ketones to Secondary Alcohols



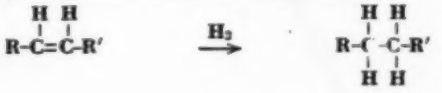
3. Oximes to Amines



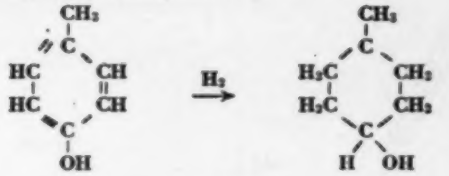
4. Nitriles to Amines



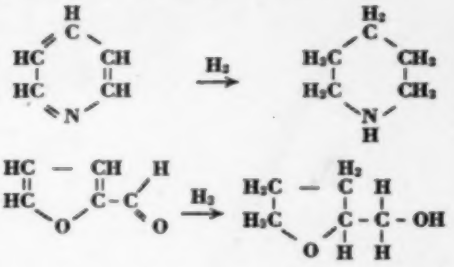
5. Aliphatic Unsaturates to Saturates



6. Aromatics to Alicyclics



7. Hydrogenation of Heterocyclics



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9. Hydrogenated Castor Oil—Hooker's Hydrogenation Department is also producing hydrogenated castor oil. This product is being widely used as a wax substitute. It is a white solid with a melting range of 82° to 86°C.

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5319

HOOKER CHEMICALS

CHEMICAL OF THE MONTH

This month Hooker's Research Laboratories suggest Chlorpropane Wax 150. $C_3H_{6.15}Cl_{7.85}$* (aver.) This is a recently developed Hooker product which may warrant your further investigation. Research samples and data sheet No. 334 describing the physical properties of this material are available when requested on your letterhead.

DESCRIPTION: Chlorpropane Wax 150 is a tough white crystalline wax, possessing a mild camphor-like odor. It is a very highly chlorinated propane derivative and therefore nearly saturated. It is insoluble in water and soluble in alcohol, ether and most chlorinated solvents. It is resistant to oleum, mixed acids, fuming nitric acid and hydrogen fluoride. It is compatible with many types of plastics.

SUGGESTED USES: Plasticizer with urea formaldehyde, phenol formaldehyde, alkyd resin, vinyl polymer, polyvinyl chloride, methacrylate interpolymer and chlorinated rubber, forming tough or rubbery films; chemical resistant lubricant; organic syntheses to make synthetic rubber and plastics; ingredient of pyrotechnic compositions.

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SMART APPEARANCE is one of the biggest sales-promotion requirements in the packaging of retail drug merchandise. And the packaging material must have high utility value to meet varied physical characteristics of drug products.

Both essentials of smartness and utility are met by the many features of Plaskon Molded Color, now being used for closures and containers on thousands of items by manufacturers in every branch of the drug trade field.

Plaskon is a plastic molding material available in a wide range of permanent colors, that will harmonize with every product need. It can be molded into unusual shapes and designs, to secure eye-catching distinction for your product.

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Givaudan-Delawanna INC.

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"The gods must be protecting that turret!"

WHEN Sulla ordered his Roman legions to set fire to an enemy fortification, his troops stood in awe of the gods because the turret — although made of wood — would not burn!

The opposing general, Archelaus of Pontus, had made the turret fireproof by coating it with "alumen." This "alumen" was not the same as the alum of modern times but was probably aluminum sulfate, contaminated with iron sulfate.

Although aluminum is the most abundant metal on the earth's surface, it was only in the nineteenth century that Oersted and Woehler succeeded in extracting it from the oxide. These processes, however, were commercially impractical and it was not until the researches of Hall, Deville and Heroult that aluminum could be produced in sufficient quantity to permit its wide use in industry.

Since 1867, every aluminum compound bearing the MALLINCKRODT trade mark has been manufactured in strict conformity with MALLINCKRODT'S tradition of fine chemicals. For aluminum products of uniformity and dependability, specify MALLINCKRODT Aluminum Acetate, Chloride, Citrate, Hydroxide, Stearate, Sulfate, etc.

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"If post-war competition demands it, gentlemen, we are prepared to go our competitors one better and become known to the druggists of the country as Double Dozen Dinklepopper."

KEEPING POSTED

More Doctors: Less for Civilians

DURING 1944, 6,933 doctors were added to the medical profession, 3,627 doctors died, leaving a net gain for the year of 3,306, and bringing the total number of doctors in Continental United States up to 191,689, of whom approximately 100,000 are in civilian practice, the balance being in the Armed Forces. Of the 100,000 in civilian practice, some are part time teachers. The number of doctors who joined the Armed Forces during 1944 was considerably greater than the gain of 3,306 in the medical profession during the year so actually the number of doctors available for civilian practice declined during the year. The number of additions to the profession during the year, 6,933, was the largest in many years including the years 1936 to 1941 when large numbers of foreign graduates were licensed and added to the profession in this country. The number of foreign graduates licensed in 1944 was fewer than at any other time since 1935.

Take Your Liquor Straight, Boys!

ALTHOUGH much discussion has appeared recently in the medical literature concerning the intoxicating effect of mixed drinks as compared with straight liquor, no one has hinted that the trouble with mixed drinks might lie in the essential oils which they contain. However, Dr. Pablo Osvaldo Wolff, of Buenos Aires, writes to the British Medical Journal and refers to their discussion of "Mixed Drinks and Hangovers," as follows: "May I be permitted to add that the main reason for worse after-effects of cocktails and other mixed drinks than of pure drinks is to be found in the presence of relatively considerable essential oils which mixed drinks very often contain. The same amount of good brandy, in the same concentration, will generally do much less harm than do mixed drinks under equal conditions. The bad effect of those essential (volatile) oils, especially on the heart and the circulation and on the central nervous system, is well known." I guess we had better take our liquor neat and confine our consumption of essential oils to flavors and the sniffing of women's perfumes and cosmetics.

Benzyl Benzoate to War

THE tremendous increase in demand for benzyl benzoate by the government is the result of a disease called mito-typhus, which disease is rampant in the South Pacific islands, and also in Japan itself. The disease is an entirely different disease than the European typhus, being carried by mites. Treatment for it is said to be mainly symptomatic and the mortality rate is reported to be as high as fifty per cent. Benzyl benzoate is the most efficient insecticide that has been discovered for these mites considering the conditions of use. The clothing of soldiers are treated with the benzyl benzoate preparation. Comparisons have been made with dimethyl phthalate. First a comparison was made of clothing treated with each of the products and the difference was not very great. Then the clothing treated with both products was rinsed with water to simulate conditions of wading through water while in action, and the time of action of the dimethyl phthalate, which was formerly slightly under a minute, increased to 14 minutes, while the time of action of the benzyl benzoate increased only slightly, still remaining close to one minute. Then the clothing was washed with soap and the time of action of the clothing treated with dimethyl phthalate shot up to 40 minutes, while the time of action of the clothing treated with benzyl benzoate again increased only slightly. Thus benzyl benzoate became the preferred material.

So despite the fact that raw materials for benzyl benzoate have many other war uses, one of which is for production of the plastic used in the noses of bombers, this new use is getting all the material it needs and other war uses are being curtailed. And now a synthetic aromatic chemical that was produced before the war only to the extent of 35,000 pounds *per year* and is now being produced at the rate of 350,000 pounds *per month*, must reach a production figure of 1,000,000 to 2,000,000 pounds *per month*.

Coals to Newcastle

WE GOT a large charge out of Bill Bristol when he was emceeing at the dinner given to Fred Stock by a group of his friends upon his retirement from government service where he spent over four years in the WPB and its predecessor the OPM (remember?). Bill wanted to know how Pfizer got Stock against the bids of all other manufacturers and accused Pfizer President John Smith of clinching the deal with a season pass for the Dodgers. Although Fred received several presents from the gathering, including a chest of silver flatware, Bill said he was an old proprietary drug man who seized all opportunities to promote his goods. Therefore, he continued, he was going to get in a plug by giving Fred a present from him. The present which Bill gave Fred was 100,000 units of penicillin Cheplin.

Changes Coming in Ethical Marketing

THE regulations pertaining to adequate directions for use on all drug products become effective in October, and we are hearing predictions of greatly changed conditions in the marketing of ethical specialties that will ensue. It is predicted that after these regulations become effective there will no more ethical specialties sold over the counter without adequate directions for use. If these products do not carry adequate directions, then they can only be sold upon a prescription. This is going to put a crimp into the policy which Mead Johnson and other houses have followed for years of giving the adequate directions only to the doctors and thereby gaining the favor of the doctors for their goods. So in this one respect it puts all the houses on an equal footing. However, manufacturers will now have to make the difficult decision of whether to restrict certain of their products to prescription sales and thereby ride solely on the doctor's ability and willingness to sell their goods for them by actually writing prescriptions for their products, or to take a chance of incurring the enmity of the doctors by giving adequate directions for use and allowing the products freely to be sold over the counter. Naturally the type and use of many products make the decision of restriction to prescriptions easy, but still there are many products to which the answer is not easy, and whichever way the decision is made, a risk of loss of volume is involved.

Consider the Source

A BILL which was introduced in Congress last year and which has been reintroduced this year would authorize the Federal Trade Commission to compel advertisers to buy advertising space to inform the public of FTC orders issued against them for false advertising of foods, drugs, cosmetics, or devices. The Bill was introduced by Representative William B. Barry of New York, who says that it was presented at the request of Loring A. Black, New York Attorney and former House member. If Mr. Barry wants to stick his neck out with any such cock-eyed ideas as this just to favor Mr. Black it is all right with us. But if Mr. Barry would like to look up some past political history of Mr. Black he will find that way back in the days when Franklin D. Roosevelt was a New York State Senator from Dutchess County, Mr. Black was an assemblyman from Brooklyn. At that time Mr. Black turned his back on the Brooklyn organization which elected him and followed Roosevelt in his successful attempt to block the election by the New York State Legislature of "Blue-eyed" Billy Sheehan to the United States Senate. Mr. Black was not renominated for the Assembly the following year and for a great many years was not given any nomination. Many years later Mr. Black was given a congressional nomination in Brooklyn in a rather hopeless district, but it was one of those years when a democrat couldn't lose. The Bill that Mr. Barry is presenting certainly looks like something that Mr. Black would try to put over.

New Wagner-Murray-Dingell Bill

CONGRESS now has before it another version of the Wagner-Murray-Dingell Bill, which is the bill to establish socialized or state medicine in this country. Mr. Wagner provides for compulsory health insurance which Senator Wagner maintains is not socialized medicine or state medicine, however, the Journal of the American Medical Association says: "With this pronouncement most people with any understanding of the situation will differ." The Journal says further:

"The section of greatest interest to the medical profession at this time is section 9, which would establish a national health insurance system. The proponents of the measure minimize its compulsory aspect in every way they possibly can. Nowhere is the word 'compulsory' used. . . . Senator Wagner emphasizes freedom of medical practice, which he says is carefully guarded because each insured person is entitled to choose his own doctor. But he must choose his own doctor from among the physicans or groups of physicians in his own community who agree to go into the insurance system. Certainly the insured person cannot secure the application of any of the funds that he has paid for payment of a physician who is outside the system.

"Senator Wagner points out that he has consulted this time with the American Federation of Labor, the Congress of Industrial Organizations, the Physicians Forum, the Committee of Physicians for the Improvement of medical Care and the National Lawyers Guild, among other organizations, in obtaining suggestions for modification of his previous version. He has not consulted with the American Medical Association or, as far as is known, with any of the members of its representative bodies or councils. The so-called Physicians Forum is a group of several hundred physicians, mostly inclined toward communism and practically all living in New York City. The Committee of Physicians for the Improvement of Medical Care, once known as the Committee of 400, now maintains a mailing list of around 1,000

physicians and is actually controlled by an inner group of a few physicians who do not in any way represent a majority of medical opinion. Thus the bill completely disregards the majority opinion of the 125,000 physicians who constitute the American Medical Association and who provide the major portion of medical practice for the people of the United States. The bill also disregards the 60,000 physicians now in the armed forces who have sacrificed as much as any other group in the country in the great war in which our country is now engaged."

Some other angles regarding the bill were recently given by Dr. Cullen of the Proprietary Association who says:

"This bill differs somewhat from the one which was pending in the preceding Congress. It seemed to me that if the previous bill had been enacted, the enforcing official would have been empowered to completely control education of physicians, dentists, and nurses, and perhaps also to take over the manufacture of medicines; and in addition, persons would have been required to go to the physician to whom they were assigned. Under the present bill you are supposed to be able to select your own physician or dentist.

"The present bill has features which may be satisfactory if there is not too much government control, such as—the government will provide grants and loans for the construction of health facilities, for example, the construction of new hospitals and the expansion of present hospitals or health centers, and this work is supposed to be done in conjunction with the State, which will also provide a certain proportion of the funds.

"The Federal Government will also provide grants to the States for public health services, for maternal and child health and welfare services, for assisting the needy individuals, the aged, the blind, and dependent children.

"These are worthwhile projects, if properly supervised by the States and not controlled by the Federal Government.

"The bill provides that there shall be a national system of public employment offices, a national social insurance system consisting of health insurance, temporary disability insurance, and retirement and survivors' payments. It provides for prepaid personal health service insurance.

"The cost would be defrayed by increasing to 4 per cent each the payments now being made by the employe and the employer to the Social Security program.

"One point in the bill that interested me particularly is that the government is supposed to extend grants to 'non-profit institutions engaged in research or in professional education.' I wonder what is meant by the words 'professional education.' Does this mean that through these grants the Government will eventually take over the training of physicians, dentists, nurses, etc.? You no doubt know that Russia has a system whereby they determine who will study medicine and dentistry, which, in our opinion, provides far from a satisfactory training. And, further, how far do they intend to go in the research field? It is the intention, through this means, to control the research that is being done in the United States. You will recall that there was a bill pending last year which, in substance, provided that the government control all research and patents."

According to the Lord Chief Justice

NO ONE less than the Lord Chief Justice of England, Viscount Caldecote, recently went down the line for cosmetics, emphasizing the importance of cosmetics and beauty preparations in the following words: "Women are so lost without cosmetics that even in prison they feel a little more disreputable when cosmetics are lacking." Lord Caldecote was addressing the annual meeting of the Police Courts and Prison Gate Mission in Liverpool when he so expressed himself.

Chairman of the Prison Commissioners, Lionel Wray Fox, also expressed the opinion that cosmetics are important to women prisoners. "To be without cosmetics must be a serious deprivation for a woman," said Mr. Fox, who continued, "She is so used to powder and lipstick that it must be as hard to be without them as it is for a man to feel unshaven."

As things are in the English jails, a woman prisoner is not allowed to use any make-up. All she gets is a hair brush, a comb, a toothbrush, a nail brush, a towel, a tin of white medicated tooth powder, and a bar of plain washing soap. However, women are resourceful according to a London officer who said: "A great many women prisoners already use make-up in prison. Not even rouge or lipstick defeats them. They simply choose from the prison library a book with a red cover, moisten it, and rub the damp dye on their cheeks and lips. For face powder they use the white camphorated chalk supplied for cleaning their teeth. Blonds keep on the gold standard by getting friends to smuggle the liquid clothes bleach out of the prison laundry—unless they're lucky enough to be working in the hospital where proxide of hydrogen is handy."

Fleming Saves Churchill

WE quote the following from the syndicated column of Dr. Daniel A. Poling, which column is distributed by the New York Post Syndicate:

"Some 60 years ago an English boy while swimming in one of Scotland's little lakes was saved from drowning by a farmer's son named Alexander Fleming. Quite naturally the boys became friends and the parents of the lad from England became interested in the boy who had saved their son's life. When they learned that it was Alexander Fleming's ambition to study for medicine, they made it possible for him to secure an education. Today the youthful lifesaver of 60 years ago is internationally famous as a scientist and as the discoverer of penicillin.

"Two years ago when Winston Churchill left the Teheran conference he was a sick man and by the time he reached Cairo he was seriously ill with pneumonia. Penicillin saved his life.

"According to the story passed on to me by my friend Albert Arend of Spokane, that was the second time that Alexander Fleming saved the life of Winston Churchill for Winston Churchill was the English boy who nearly drowned in a Scottish Lake."

A.D.A. and Dentifrices

THE American Dental Association seems to have very little control over the marketing of dentifrices if the statement made by the ADA Council in the June 1 issue of its Journal is any indication. This report on "The Status of Dentifrices" treats of the following dentifrices, none of which are accepted by the Council at the present time: Calox Tooth Powder, Colgate's Dental Cream, Colgate Tooth Powder, Cue, Forhan's Tooth Paste, Iodent Tooth Pastes No. 1 and No. 2, Iodent Tooth Powder, Ipana Tooth Paste, Kolynos Dental Cream, Kolynos Tooth Powder, Listerine Tooth Paste, Listerine Tooth Powder, Dr. Lyon's Tooth Powder, Pebeco Tooth Paste, Pebeco Tooth Powder, Pepsodent Tooth Paste, Pepsodent Tooth Powder, Pepsodent Liquid Dentifrice, Revelation Tooth Powder, Squibb Dental Cream, and Teel.

The report states that the following dentifrices were accepted by the Council at various times were dropped in most cases for violation of the Council's "liberal rules with regard to advertising": Colgate Dental Cream, Iodent Tooth Pastes No. 1 and No. 2, Kolynos Dental Cream, Pebeco Tooth Paste, Pepsodent Tooth Paste, Pepsodent Tooth Powder, Pepsodent Liquid Dentifrice, and Squibb Dental Cream.

The report states that there are 83 dentifrices accepted by the Council out of nearly a thousand that were on the market before the war. The report does not enumerate the 83 that are accepted, but the very large majority of the dentifrice business is done by the ones that they list as unacceptable.

Raw Material Outlook

JOHN T. BATSON, who succeeded Fred J. Stock in the position of chief of the Drugs and Cosmetics Branch of the Chemicals Bureau, WPB, reported late last month the position of raw materials and containers for this industry as follows:

Because of heavy container requirements for the coming canning season, both glass and metal containers are expected to continue in critical supply for the industry. It is unlikely that increased supplies of metal cans for drug and cosmetic uses will be available before the first quarter of 1946.

Paper and paperboard, including fiber board for shipping containers, continue to be critical. It is not expected that the paper and pulp situation will improve until the second quarter of 1946.

Lead remains in short supply, and no immediate increase is anticipated for the production of collapsible lead tubes. Aluminum supplies are available, but production facilities for aluminum tubes continue to be limited.

Sugar is in critical supply. The present quota of 120 per cent for pharmaceutical use may be reduced to 100 per cent or perhaps to 90 per cent for the third quarter of 1945. Corn sugar (glucose) and milk sugar are in adequate supply.

Because of recent developments and the time necessary to readjust requirements, it is impossible at this time to say with any certainty what the alcohol situation will be. However, there is no apprehension that alcohol will be less available for drug and pharmaceutical use than in the past, and there is a possibility that there may be some easing during the next few months, he added.

Isopropyl alcohol, 91 per cent, is in better supply, but 99 per cent isopropyl remains critical.

Glycerine should be ample for all drug uses.

Fats and oils (not including essential oils) continue in very short supply.

In the antimalarials, increased production of quinacrine (atabrine) will be necessary. Quinine will continue to be reserved for the military antimalarial but will be available in ampule form for civilian antimalarial use. Totaquine is in liberal supply, and increasing quantities are available for domestic and export antimalarial use.

Sulfonamides are in ample supply. Military procurement has increased somewhat, but civilian and export needs will be satisfied.

Vitamins—except vitamin A—are in good supply. If military and lend-lease requirements continue at present levels, vitamin A may be somewhat limited. Food and pharmaceutical requirements are being met by increased production of the synthetic vitamins. Increased quantities are expected to be used for food enrichment.

Both sodium and calcium salts of penicillin are freely available for all parenteral uses, including veterinary. Further relaxation of controls to permit uses in other dosage forms will be authorized as soon as the supply situation warrants.

Considerable demand has been manifested for amino acids. Protein hydrolysates are in demand as well as synthetic amino acids. Current production is not adequate to meet the demand.

Soft gelatin capsules are in reasonable supply in contrast to a shortage of empty hard gelatin capsules. Supplies of the latter should improve by early fall. Lack of machine facilities and labor is responsible for the shortage.

Bismuth salts will remain in short supply for some months. Supplies will be adequate for prescription and antiluetic use, but general pharmaceutical use will have to be curtailed.

Pharmaceutical needs of caffeine and theobromine will continue to be met, although beverages will receive only a percentage of their normal demands for caffeine.

It is expected that the salicylates, including aspirin, will be in adequate supply although phenol, the starting material, remains critical. It is not expected that phenol will be made available for unlimited production of salicylates.

Citric acid supplies will remain extremely short during the third quarter. Some relief may be expected for the fourth quarter.

The low volume of slaughter of hogs and beef will cause a tighter situation in pharmaceutical glandular products, but by autumn increased hog slaughter should improve the supply situation.

Peroxide and perborates will continue in extremely short supply. Sodium metal, sodium cyanide, benzaldehyde, monomethylamine, phthalic anhydride, pyridine and aniline should be made available as basic raw materials in sufficient quantities to meet the essential needs for medicinal chemical manufacture.

Ipecac and emetine will continue to be in critical supply.

Cresol USP is not available, but cresylic acid and imported cresols are in fair supply. The shortage of vinylite resin cap liners, which has recently caused considerable concern, is expected to ease in the near future.

TGA Wants FDA Ad Control

THE Congressional Record of May 24th contains the following:"750. Also the petition of the Toilet Goods Association, Inc., of New York, petitioning consideration of their resolution with reference to vesting sole jurisdiction of both the labeling and advertising of foods, drugs, and cosmetics in the Food and Drug Administration. To the Committee on Interstate and Foreign Commerce."

New Vitamin A Isolated

A NEW vitamin A—a twin of the well-known vitamin A—has been isolated in crystalline form by Charles D. Robeson and James D. Baxter, of Distillation Products, Inc., and has been found to have the same potency as the older vitamin A. These men claim that vitamin A is not a single substance but a mixture of two different things. They state that from 20 to 40 per cent of vitamin A in typical oils such as halibut and dogfish liver oils is present as the new substance. There are indications that the content of the new vitamin may range as high as 48 and 49 per cent in whale liver oil and U.S.P. codliver oil, respectively. The new and old vitamin A are apparently geometric isomers, it is claimed, identical in structure except for the end grouping of the molecule.

Penicillin Tablets in Mexico

WYETH, INCORPORATED, through its affiliate company Wyeth-Stille, S. A., of Mexico City, is now making penicillin tablets for distribution in Mexico, the government of which country has granted this company—which is the sole commercial producer of penicillin in Mexico—to make tablets immediately for civilian distribution. In less than three weeks the company changed over its production of penicillin from the injectable sodium salt type to the calcium salt tablets now on sale. The tablet is a product of the research staff of the Wyeth Institute of Applied Biochemistry and Wyeth Incorporated. A detailed account of the research work which led to its development appeared recently in the Journal of the American Medical Association, the salient feature of which was the discussion of the successful use of sodium citrate as a buffer, guarding the penicillin against the destroying action of the gastric juices in the stomach until it had reached the intestines.

Penicillin Prices Unstable

THE penicillin market remains very unstable as to price with wholesale prices somewhere in the neighborhood of seventy-five cents per 100,000 units. Manufacturers are generally accusing one another of shaving prices here and there and many of them are threatening to break the market wide open in an effort to establish a real bottom that will result in a stable market. Meanwhile some manufacturers are understood to be in the process of working upon advertising that will be quite competitive in nature and which will differ greatly from the institutional copy of the past which merely brought to the attention of the readers that the company was a real producer of penicillin or had something to do with its development. Emphasis might be laid upon what the manufacturers speak of as quality, and doubtless in the future competition will largely be predicated upon this. At the present some manufacturers are studying the potency of various penicillins which are said to vary all over the lot. Some of the products have potencies per milligram as low as 500 units, while one or more are said to have potencies of 1,500. What this means from the point of view of quality does not seem to be definitely determined. However, the manufacturers of high potency material imply that their products are purer and that surely it is best to inject into the blood stream as little material as possible to obtain desired results. Doubtless as production continues to increase and supplies are ample to meet all demands, the manufacturers will turn to greater purification of their products the efforts which have heretofore been expended in increasing production to its present limits. What influence on price, competition on a quality basis will have remains to be seen. It also remains to be seen how great the differences in quality will be.

The Vitamin Market

WITH all the excitement regarding vitamins and their usefulness, we give herewith a letter we received recently from Wellington Rounds, general manager, Fairfield Laboratories, Inc., Plainfield, N. J., which reads as follows:

"If you have space for a little hot-under-the-collar comment in your magazine I think that others in the vitamin business would be interested in reading a rebuttal to a statement which has cropped up frequently in articles relating to whether vitamins are good, bad or indifferent. This is in reference to 'one major manufacturer withdrawing from the vitamin business.'

"It is generally known by informed people in the vitamin industry that this manufacturer attempted to market a low potency product. Eight or ten years ago this manufacturer might have been justified in marketing such a product, but certainly within the past five or six years no manufacturer has been justified in marketing a low potency Vitamin B-complex tablet. It is contrary to all rhyme or reason to expect people to take eight tablets per day to supply their Vitamin B_1 requirements or approximately 20 to 25 tablets per day to supply their Vitamin B_2 requirements. Any number of products of this potency under various brand names have been offered for sale and have died a dog's death.

"I certainly think that in any future articles appearing in DRUG AND COSMETIC INDUSTRY that when a writer makes reference to one major manufacturer withdrawing from the market that you might insist on a footnote explaining that the product never should have been introduced for sale in the first place.

"I am in full accord with the statement of Harry B. Goldsmith, published on page 578 of the May 1945 issue and I certainly appreciate the intelligent and interesting coverage which your magazine has given to the subject of vitamins.

"My background for being incensed at reading statements which cast aspersions at the vitamin business is that for years our firm has been engaged in selling food supplement vitamins at food prices, We are largely private label packers, but we do have our own brands which are sold to many thousands of buyers year after year. We have been ahead of competition in offering more vitamin potency for the consumer's dollar than any other product on the market."

During the Battle of Britain the importance of large quantities of Vitamin A in the diet of fighter pilots was recognized.

Nutrition and Geriatrics

By L. STAMBOVSKY

GERIATRICS is the science of old age. A more lucid definition would be to say, "Geriatrics is that medical speciality whose function is to add life to years and years to life (Piersol & Bortz, Aging Processes, Ann. Int. Med. 12:964, 1939). It is only within the past two decades that the life span sufficiently extended to offer any employment for the Geriatrician. In 1930 there were 6½ million people over 65 years of age in America. It has been estimated that by 1975 our population will contain 22 million persons over 65 years of age.

We are fast becoming a nation of "oldsters," which is a living tribute to our monumental advances in therapeutics. The antibiotics, (penicillin, tyrothricin, etc.), and the sulfa drugs have greatly reduced the mortality attending such dangerous diseases as pneumonia, influenza, meningitis and other infections. Insulin is specifically and directly responsible for the continuation of life for about two million diabetics. Glandular therapy and surgery have in a lesser degree aided in holding back the grim reaper. Tuberculosis has been considerably curbed by early diagnosis and improved management. Through the combined efforts of these agencies, the life span has been prolonged but multiple evidence of gross physical deterioration has not been prevented or even mitigated.

Admirable as is the extension of years—it is not enough. Of what avail to live if the eyes do not see nor the ears hear. Sans teeth, sans hair, crippled by arthritis and rheumatoid conditions, and ostracized by mental retrogression to the point of childishness—this is the picture which all too often describes those who at three score and ten have taken a holiday from death. Such an existence is merely years without life—a wearisome interlude to those so unfortunate and a sad burden to society. On the other hand longevity, when not accompanied by the briefly mentioned degenerative syndrome, can be of incalculable value to the community and the nation. Such persons are rich in valuable experience acquired through years of failure and success. Frequently they have gained special skill and ability that can be had only by a lifetime of persistent endeavor. Witness Edison, whose fertile brain was productive to the very end. Gladstone was elected prime minister of England at sixty and still held that position at eighty-two. Churchill is now seventy and is envied by many younger men for his vitality. At 78 years of age, Walter Damrosch was embarking upon a career as a concert pianist. The contributions of these men and others require no comment.

Man has two ages—his physiologic age which is definitive and his chronologic age which is merely a relative factor. Repeatedly we may note subtle or even frank evidence of decay at the age of 25 and occasionally there will be seen men of 50 devoid of

any sign of senility. In other words some men are old at 25 and others are young at 50. What are the factors and influences which govern this seemingly but not actually, mysterious paradox? Excesses of any sort are physiologically destructive. Among such indulgences should be included alcoholism and unbridled sexual and dietary habits. Lack of a reasonable amount of physical exercise throughout adulthood is a slow but sure highway to senescence. Unquestionably more bodies rot out than wear out. Worry of any sort, "high-pressure" living, insufficient rest, over work, industrial hazards—all these take their toll. Greater by far, than the combined effects of all these factors, is the role of nutrition as the prime-mover in the degenerative processes with which our pathology is today concerned. Nutritional sins of omission and commission, not only at 50 or 60, but commencing at conception and daily thereafter, over shadows all else in governing longevity—useful or parasitic.

When should Geriatrics be practised? As we just stated—at conception for surely the casting cannot be perfect if the mold is imperfect. The amazing results of pre-natal dietary fortification should make such supplementation mandatory in all pregnancies. The literature is replete with reports of mass studies offering dramatic evidence of the value in assuring the foetus optimum nutritional elements through the mother. And after birth, constructional and maintenance nutritional bio-chemicals are vital for longevity. For instance, teeth at 50 are determined by diet at 5. It is or should be known that a sound and full dental complement can be attained only by a sufficiency of vitamins A, D, B complex and C; plus the necessary calcium and phosphorous—all this during youth. An avoidance of excess carbohydrates is also important. Impaired and difficult mastication in later life, brought about by loss of teeth, will hinder the ingestion of proper nourishment, which in turn will exact an inexorable price in future and remote physical disintegration. Parallel reasoning may be applied to many other physical and mental disturbances accompanying age, which were germinated and lay dormant during youth but were born through the stress of years.

Space forbids expansion of the claim that Geriatrics should be part and parcel of Pediatrics. Inasmuch as the full utilization of nutritional science during the formative years of life is still in the distant future, because of ignorance, resistance or economic inhibition, at least we should employ this information, even though late, to mitigate or as far as possible prevent those pathologies appearing during senescence. Almost without exception, it is a certainty that nutritional failure of variable degrees will be found among the aged. There are a number of heterogenous and subtle influences responsible. One cause lies in the fact that it is a rare person who obtained an adequate diet throughout life. Mild chronic deficiencies, unapparent at 40, suddenly and accumulatively assert themselves at 60. There are other factors: age means lessened activity and consequently reduced caloric requirements which in turn involves a reduction of total intake. Demands for vitamins and minerals at the same time remain constant. Obviously, with a reduced total consumption, the opportunity to gratify this demand is very slight. Food fancies and eccentricities further amplify this defect. Therapeutic diets prescribed for special purposes are frequently deficiency producing. We quote from Mackie, (Mackie T. T., A Nutritional Study of Hospital Diets, Hospitals 15:106, Feb. 1941), "certain hospital dietaries are insufficient to maintain the admission blood levels of patients—true primary deficiency may actually be produced in the hospital." Possibly because of taste or easier dentition, the aged seem to gravitate towards menus of highly refined carbohydrates. Such foodstuffs supply no catalytic elements but necessitate considerable amounts of these catalysts, (vitamins) for their metabolism, which in turn depletes already meager if any reserves.

Diabetes, anemias, chronic arthritis and rheumatoid disease, obesity and alcoholism—these synchronously or individually aid in the production of malnutrition

(Continued on page 812)

PHOTOS FROM KEYSTONE

Cosmetic Emulsion Manufacture

Part II

By E. G. THOMSSEN, Ph.D., Consulting Chemist

THE actual procedure for manufacturing cosmetic emulsions varies considerably and is largely governed by the type of emulsifying agent used. The stability of an emulsion is also dependent upon this emulsifying agent and how it is employed. With these details in mind, we will consider emulsions or creams by classifying them according to the emulsifying agents used, rather than by their intended uses. While these cosmetics are offered both as solids and liquids, we will limit our discussions to liquids, since the procedure for making solids is the same as for liquids. While texture and other consumer acceptability are important to solid emulsion creams, it is much easier to make them. Then too, once these creams are made and filled, they are much less apt to show up defects, of which separation is the most often appearing one, than are liquid creams.

As a preliminary statement, it should be emphasized that it is a wise policy to first work out any method of emulsification in small laboratory lots before making large batches. From these laboratory samples in which standardized procedure is carefully chartered one should gradually work up to the desired sized batch. The operations which are particularly important are the quantities of water, oil, thickener if added, and emulsifying agent to be used, the order in which these materials are handled to make an emulsion, the type speed and time of mixer and mixing operation, purity of the raw materials used, temperature at which the emulsion is made and the pH of the finished cream. Careful and standardized procedure of these points is necessary for the making of an acceptable, stable emulsion.

In order to searchlight the manufacturing details for making emulsions, it is more convenient to refer to specific formulae. By so doing we can more accurately and concretely develop the modus operandi. As already stated, these liquid emulsions will be classified according to the emulsifying agents used, like soap emulsions, amine emulsions, polyhydric alcohol ester emulsions and others.

The old type almond cream or lotion still meets with favor in certain directions, even though it does not incorporate the more modern emulsifying agents and is dependent mainly upon soda soap as the emulsifying agent. It is not only more difficult to make, but also less stable than liquid emulsions made by other methods. A typical formula follows:

PART I CREAM OIL BASE

6½	lbs.	Beeswax
16½	"	Spermaceti (Refined)
68	"	Almond Oil (Sesame Oil or Peanut Oil may be substituted)
20	"	Water Distilled
1⅛	"	Borax

PART II FINISHED CREAM

50	lbs.	Cream Oil Base (Part I above)
10	"	Neutral White Soap
150	"	Water Distilled
QS		Perfume

To put a cream of this type together a cream oil base, or Part I is first prepared. This is done by dissolving the borax in the water which is heated to about 150° F. to facilitate solution. The beeswax, spermaceti and vegetable oil are then melted together by indirect heat and the borax solution is stirred in gradually at 140° F. until the mass is homogeneous when cooled. Then the mixture is emptied into suitable, covered containers and either transferred directly to the emulsifying mixer or permitted to stand for future further manipulation.

To make the finished cream, the required quantity of oil cream base is transferred to a suitable, emulsifying mixer. As intimate agitation is important, a covered, variable three speed, cake type mixer in which the pan revolves as well as the stirring arms is very adaptable. The soap in powdered form is added to the cream oil base and mixed in until the mixture is uniform. The water which has been heated to about 140° F. is then added very slowly, in a constant thin stream. If it is not taken up by the mass rapidly enough to form an emulsion, the addition of water is interrupted and mixing continued until the water is incorporated properly. When about two-thirds of the water has been added the mixer is changed to the intermediate speed to prevent slopping over and the water addition and mixing continued until all the water is used up. The perfume is now added very slowly. The mixer is then changed to the slow speed and mixing continued until the liquid cream reaches room tem-

perature. It is finally passed through a colloid mill or homogenizer, stored for 24 hours, tested for quality and filled.

A variation of this method may be illustrated by another formula. This consists of five steps.

STEP I

Melt together at 150° F.

10	lbs.	Spermaceti
1¼	"	Beeswax
2½	"	Stearic Acid XXX
10	"	Almond Oil or other suitable refined vegetable oil, e.g peach kernel or raisin seed
4	oz.	Perfume

Section of the Pond's plant at Clinton, Conn., showing cream line operations

STEP II

Dissolve by heat

11¼	lbs.	Castile Soap Powder in
100	"	Distilled Water

STEP III

Dissolve

5	lbs.	Gum Tragacanth and
3	"	Benzoic Acid in
320	"	Water Distilled

When cool add

12½	lbs.	Glycerine
2	gals.	Alcohol S.D. 39 B

STEP IV

Dissolve

2½	lbs.	Borax in
40	"	Water, Hot Distilled

STEP V

To make the finished cream add #II to #I, then add #IV to this and finally add #III. This must be done in a suitable, efficient emulsifier. Emulsification is continued until the mass is emulsified and then the cream is passed through a colloid mill or homogenizer to assure a more stable emulsion. It is then ready for bottling.

Liquid creams may be made much more easily with emulsifying agents which contain an amine group like triethanolamine (TEA) and amino glycol which are most frequently used for liquid cosmetic creams.

In order to illustrate the method, which has been found most convenient for liquid creams made with TEA, we will again use an almond type cream as our guide. In this formula it is possible, however, to make numerous substitutions for the peanut oil indicated. This may be replaced by any suitable vegetable oil, mineral oil, partially by lanolin or by beeswax, spermaceti, Ceresin, cetyl alcohol or isopropyl esters of the fatty acids. It is permissible to add gum, mucilages or solutions as thickeners, preservatives and other lotion ingredients like glycerine or propylene glycol. The purpose of this formula, which is a very simple one, is to point out a method used in making emulsions with TEA.

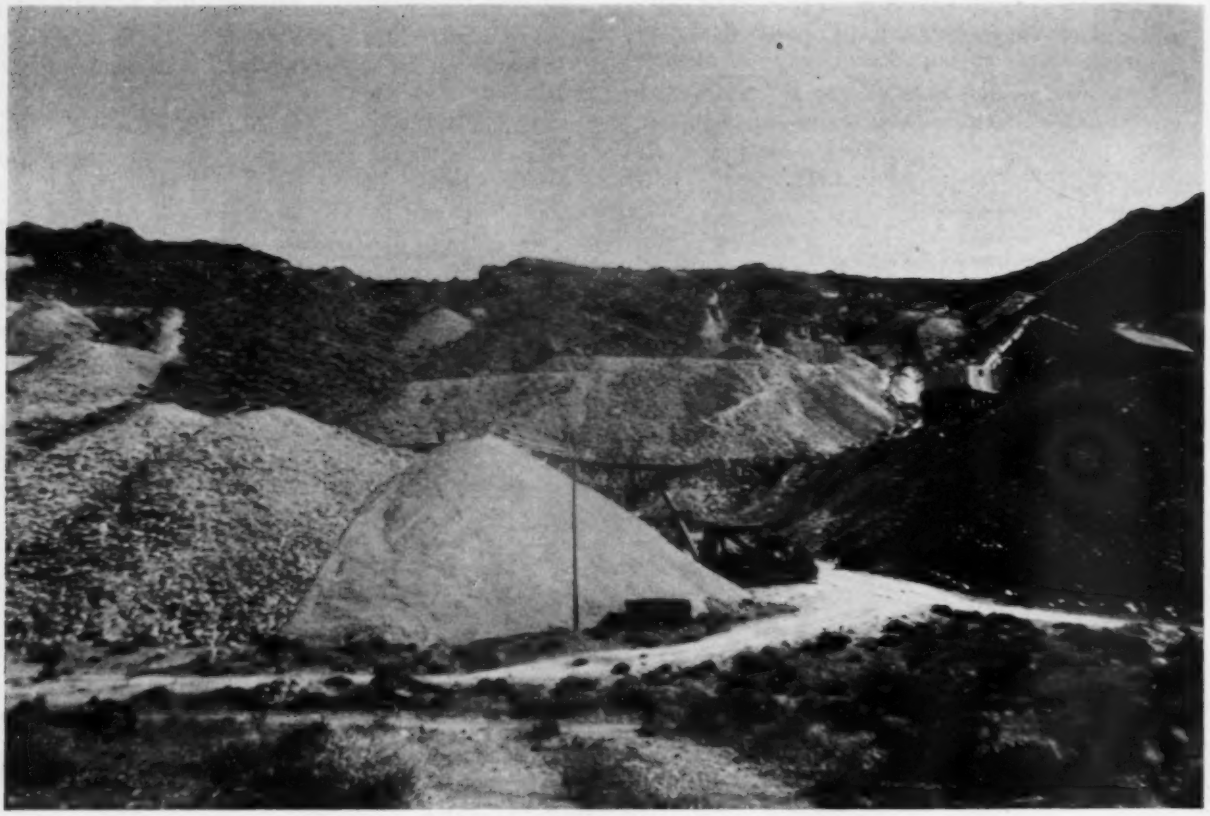
I

9	lbs.	Stearic Acid XXX
3	"	Triethanolamine
400	"	Water Distilled
1	"	Borax

II

70	lbs.	Peanut Oil Refined
1½	"	Perfume

(Continued on page 804)



View of the entrance to a Sierra Talc City Mine

TALC

Wartime developments in domestic production of this important cosmetic material emphasize the fact that imported talcs face a changed post-war market.

Now that the European war has ended, restrictions on many products are being lifted in this country. Also in the not too distant future, trade with foreign countries which were engaged in this war will be resumed and eventually reach normal proportions. For this reason, many of the raw materials which were largely or completely shut off from us during the war will again be freely available in this market. One of these products is talc, large quantities of which were formerly imported from Italy, France, and India. As a matter of fact, sizable quantities of Indian talc were imported while the European war was in progress, but cosmetic manufacturers were forced to turn to domestic talc producers for a large part of their supplies.

During the war domestic talc producers were forced greatly to increase their knowledge of talc. They had to pay careful attention to many of the properties of talc which they formerly disregarded. This action on the part of the talc producers was necessitated by the heavy demands of industry for steatite grades of talc for production of insulators and other electrical ceramics for war purposes. Because of this increased activity and increased knowledge of production of the various grades of talc, there has been established in this country a real talc industry which claims that it is able to furnish continuous uniform shipments of good grades of talc for practically all uses. The question that is arising now is whether this industry will continue to grow and prosper despite the fact that foreign talcs will again be available, or will it languish and return to its former much inferior status. Since it has demonstrated its ability to meet the stringent specifications of our gov-

ernment's steatite requirements, the hope is expressed that it will be equally successful in meeting the specifications of the cosmetic manufacturers. Perhaps the answer lies somewhere between these two extremes since imported talc will most certainly find many users in this country, while many who have learned to use domestic talc because of the war shortage of imported talc, will probably continue to use the domestic material in large quantity if not exclusively.

Importers of talc naturally express the opinion that nothing can replace the imported material. They talk of the shape of the particles of which the various talcs consist. The Indian talc, it is claimed, consists of round particles and for this reason it is said to be preferred by some of the most important producers of face powder. Italian talc, which was preferred by many for cosmetic use when it was available before the war, is also highly touted by its proponents. They regard its soft, flake-like character as one of its outstanding characteristics. Reasons given for the preference of imported talcs are particle shape, slip, color, lime and iron content, massive structure, uniform milling, and uniformity of all these properties in subsequent lots.

The domestic producers of talc are now beginning to build up their claims as to quality so that they will be in a favorable position to compete with the foreign talcs for cosmetic purchases when importation of these talcs is resumed. Talcs suitable for cosmetic purposes are said to come from Nevada, Montana, New Mexico, and California. The first three states are said to produce a quality equal to, and in some cases better than, California talcs, but the supply in these states is said to be much more limited than in California.

The Western talcs are of three principal types—steatite, fibrous, and tremolitic, the steatite grade being the only one suitable for cosmetics since it is characterized by its low lime, low iron, and dense massive structure. The impurities present in such talcs are principally iron, alumina, lime, soda, and potash. The steatite talcs also differ in their physical qualities and principally in their degree of hardness and particle shape. Producers claim western talcs intrinsically are just as good as any of the imported talcs if freely available, properly selected, and controlled. However, they contend western talcs, principally California talcs, have in many cases been given a black eye due to careless production by many poorly equipped, small producers who merely pulverize the material as it comes from the ground without any selection. It is claimed that the demand has been so great for talc for cosmetic purposes that manufacturers have accepted material below their standards for the simple reason that they had to have supplies. But in accepting material that is not up to their standards, many companies have considered that the poor quality is characteristic of all western talcs which is not so.

Some producers of western talcs state that the war, which was of great assistance in opening up and developing the talc industry in the western states, has also, by its demands, largely prevented the better western talcs from reaching the cosmetic manufacturers.

PHOTOS COURTESY INNIS, SPEIDEN & CO.

Feeding talc ore to crusher at Keeler Mill

Overall production of all grades of talc in 1945 will total 340,000 tons, according to a recent estimate of WPB, this representing a 20,000 ton increase over 1944, and a 40,000 ton increase over 1943. The large majority of this talc is, however, unsuitable for cosmetic purposes, being used for paints, roofing, paper, rubber, and other products which do not require the fine grades that are required in the cosmetic industry. WPB states that during 1944, 21 new talc mines shipped crude talc to the mills, bringing the number of mines in operation to 87. However, 18 old mines closed down, leaving a net gain at the year end of only three. The principal talc production, WPB says, is centered in New York, Vermont, California, and Georgia. However of all these states, California is the only one producing talc of cosmetic quality.

When the United States entered the war in December, 1941, there were still large stocks of imported talcs in warehouses in this country and in the hands of consumers, and in 1941, the last pre-war year, a total of 18,561 tons of foreign talcs were imported, including crude and powdered talcs. In 1940 imports totaled 28,238 tons, and in 1939, 26,076 tons. It is estimated that at least 75 per cent of these talcs reached the

(*Continued on page 802*)

Repackaging Black-Draught

As one result of a modernization program, the Chattanooga Medicine Company has accomplished several very important purposes through a rather drastic change in package construction. These purposes are: First, the changed package construction ideally fulfills Government requirements for the conservation of paper since it utilizes a mere fraction of the paper required by the former package. Second, because the new package is more moisture-proof than its predecessor, it furnishes greater protection to the product. Third, the new package is more convenient for the consumer to use since it provides an easy means of opening the package and resealing it. Fourth, the new package permits the use of modern high speed automatic machinery.

The new package is, as the photographs reveal, a clean, modern-looking package with the same constituent elements of design which characterized its predecessor. The identity of the original package has not been lost.

By way of introduction it may be said that the Chattanooga Medicine Company has been in business for a great many years. Because its business is long established in the southern states, one requirement of Chattanooga's package modernization program was that the appearance of the long-established consumer package could not radically be altered. It was decided, however, to go as far as possible in modernizing design elements without endangering the established identity of the original consumer package.

At the time the program was instituted, the necessity for saving paper was evident and it became the problem of the company not merely to cooperate with the Government in saving the paper for defense purposes, but also to achieve a better package in all particulars. As an illustration of the amount of paper saved, we wish to describe for a moment the original package. For generations Black Draught Powder and more recently Granulated Black Draught (either of which is used as a dry laxative) were packaged in small yellow cartons and generally sold at $.25 retail. For many years, however, the company has had a rather unique merchandising policy and has based its sales price and all of its sales effort on what is called a "dozen" unit. Actually, the "dozen" unit consists of forty-eight consumer packages or twelve "Mammoth" dealer packages containing four each. The wholesalers got the corrugated case containing a dozen Mammoth packages and resold them, in many cases, to the retailer in the individual Mammoth cartons of four each. The retailer then destroys the Mammoth packages and sells the individual packages to his customers. At one time, a great many individual customers purchased the Mammoth package and a few still do, but this is not generally the rule.

In order to show the amount of paper the old package contained, its construction will be described. A Mammoth package consisting of four consumer packages contains, as shown in Photograph Number 1, the following packaging materials: Four small white cartons, four small yellow cartons, four large circulars, one large foil wrapper for a unit of four packages, one Mammoth carton for the above unit.

The elements of the new package are shown in Photograph Number 2. This new package contains the following materials for each Mammoth package: Four yellow cartons, four small circulars, four small pieces of pliofilm, one unit wrapper of cellophane to contain the four consumer packages.

Therefore, for each Mammoth package, the following material has been saved: Four small white cartons, about half the circular stock, one large foil wrapper for the Mammoth unit, one large carton for the Mammoth unit.

To accomplish this, the new Mammoth package required the addition merely of four small pieces of unprinted cellophane and one large piece of overprinted cellophane or glassine. The comparison in the comparative quantities of material required is strikingly shown in Photograph Number 3. The comparison in appearance between the old and the new packages is shown in Photograph Number 4. Photograph Number 1, as mentioned above, shows the elements of the old package and Photograph Number 2 the elements of the new Mammoth package.

The reader will wonder why the old package contained so many different materials. The answer lies partly in merchandising and partly in an effort to secure maximum moisture protection. The merchandising element consisted in the creation of the Mammoth package idea and the application of the word "dozen" to twelve Mammoth packages or forty-eight consumer packages.

The disadvantage of the Mammoth package, however, from the ultimate consumer's standpoint consisted in the fact that moisture protection was, by means of the foil wrapper, given to the consumer packages only up to the time they reached the retail dealers' shelves.

At this point the Mammoth carton and the foil wrapper were discarded and hence the individual consumer packages had no moisture protection whatever other than that inherent in ordinary carton stock.

Since the product is of such a nature as to absorb moisture readily, the old package reflected an age-long effort to secure maximum moisture protection with necessarily inexpensive packaging materials. Hence, the product was first packaged in a small white carton which was glue-sealed both top and bottom. The circular was then wrapped around this package and it was thrust into a slightly large yellow carton. Four of these were then assembled as a unit and wrapped in heat-sealed foil paper and then the foil-wrapped unit was put into the Mammoth package which was also glue-sealed. The expense for the extra packaging materials and the labor involved is, of course, perfectly obvious. But with all these precautions, the individual package had a tendency to sift.

Moreover, the package contained an inherent deficiency in that the consumer removed and destroyed the yellow carton which was in itself the chief visual trade-mark of the company. The consumer then was forced to open the inner white carton which had no means of reseal and in consequence of this remained open exposed to air and moisture and spillage.

At the time research was undertaken to correct all these deficiencies, the management set forth the following principles to guide those in charge of the project. First, as a contribution to defense measures, the quantity of paper employed must be reduced by fifty per cent. Second, the individual consumer package must be provided with some means of easy access and reseal. Third, the individual consumer package must have moisture protection up to the time it is opened by the customer. Fourth, the design of the package must lend itself to the highest possible production speed.

At the beginning of the investigation, it was clearly apparent that no more foil would be available for packaging purposes and this had to be eliminated from the investigation of packaging materials. The procedure recommended by U. S. Bureau of Standards for moisture absorption tests was followed. Packaging materials of all kinds were tested and the combination described above was selected as providing the best all-around moisture protection for this product. The top flaps of the package were scored in a manner which would provide an opening that could be resealed. This opening is shown in Photograph Number 2. The spillage problem and the consumer convenience problem were thus both solved at once.

The old circular was reduced in area by fifty per cent and it was folded so as to be almost the same size as the package itself. The reduction in the size of the circular made it imperative to increase the amount of copy on the carton itself and this was accomplished by printing on one side of the circular the trade-mark which formerly was printed on the back panel of the

(Continued on page 816)

The comparison in appearance between old and new packages is shown above.

Old and new packages side by side illustrating the comparative quantities of material used in each

Elements of the old Mammoth package are shown above, while below are elements of the new Mammoth package.

EYE LOTIONS

By M. A. LESSER

THE production of eye lotions has gone through quite a revolution during recent years. Fast disappearing are the old, empirical preparations with their melange of impressive, but often illogical and useless ingredients. Today, eye lotions, whether for toilet or therapeutic use, are formulated on the basis of a growing understanding of the eye and its secretions. The result has been two-fold. First, there has been great simplification in composition. Second, a marked increase in the popularity of every-day eye hygiene has become apparent.

To be effective and acceptable, an eye lotion or wash must have certain definite characteristics.[1] Primarily, it must be safe, and so formulated as to do no possible damage to the sensitive eye. From this it follows that the liquids for soothing and cleansing the eyes, should be neutral in reaction, isotonic, clear, sterile and stable.

In general, a pH equivalent to that of tears, nature's eye wash, is the proper reaction for eye hygiene liquids. The pH of normal lacrymal fluid is commonly accepted as being approximately 7.4, although some workers have found the pH of tears to range between 7.2 and 7.6. Buffering the solutions helps to maintain the requisite reaction and, in addition, serves to improve the efficiency and stability of the lotion.[2] However, it has been found[3] that a solution within the pH range of 6.5 to 7.8 is relatively non-irritating provided the eye liquid or collyrium is also isotonic with tears.

Isotonicity with the lacrymal fluid therefore looms as another important requisite of eye lotions. If a solution is hypotonic or hypertonic, irritation, smarting and even pain may result until the osmotic pressure is brought into equilibrium. It is now appreciated that the osmotic pressure of a solution must be of the same value as that of tears if the lotion is to be non-irritating. To prepare properly isotonic eye lotions, notes Holland,[4] several methods may be found applicable. In general, the usual method of obtaining isotonic solutions consists of adding such amounts of a dissociating salt, usually sodium chloride or boric acid, as to give the lotion the same osmotic pressure and the same freezing point as lacrymal fluid. Sometimes, especially in the preparation of medicated lotions, the question of compatibility enters the picture and must be given due consideration.

Clarity and freedom from floating particles are obvious requisites that can be attained by using pure chemicals and making certain that they are completely dissolved. Adequate filtration is an important step in providing a sparkling clear liquid. Such filtration is best done after the solution has cooled and allowed to settle for a while; thereby eliminating any recrystallization that may have occurred or any precipitate that may have formed. Packaging considerations point to the need for resistant glass containers that will avoid the hazard of reaction between the glass and the fluid.

Dust contamination of the lotion itself may be avoided to a large extent by the use of screw cap closures.

Sterility is highly desirable in any eye lotion, but is a major requisite in medicated preparations to be used on infected or injured ocular tissues. Since many eye diseases are due to bacterial infection, it seems hardly necessary to point out that further addition to the microbial flora is definitely undesirable. Then, too, one cannot overlook the fact that an eye suffering from a purely physical injury is particularly susceptible to infection. Where the constituents permit, usual autoclaving methods provide adequate sterilization. Where heat cannot be used, one must resort to filtration sterilization methods, plus aseptic technic.[1]

With most properly prepared lotions no preservative is needed to assure a stable shelf-life. However, the possibility of contamination from stoppers, droppers and other exposures, as well as the nature of certain medicinal substances, makes the use of a suitable preservative a desirable factor. Glycerine has been used for such purposes,[2] but at present the trend is in favor of the esters of para-hydroxybenzoic acid. These may be used singly or in combination and form the basis of the so-called "preserved water" now being extensively recommended for making opthalmic solutions.[5, 6, 7, 8] Thus, methyl para-hydroxybenzoate has been found to be not only a good preservative but also practically non-toxic and to exert no action on contact with the conjunctiva of the eye.[9] More generally, a combination of methyl para-hydroxybenzoate and propyl para-hydroxybenzoate is used. Often recommended for use in the ratio of 65 parts of the former to 35 parts of the latter, the mixed preservatives are added in proportions ranging from 0.4 to 1.0 Gm. per liter of distilled water. Heat is required to bring these preservatives into solution.

Actually, cleansing and soothing lotions for everyday eye hygiene to meet the desired standards are not at all difficult to prepare. Indeed, an effective and therapeutically acceptable lotion could be made by dissolving 14 Gm. of sodium chloride or 31 Gm. of boric acid in a liter of water.[10] As a rule, however, two or more active ingredients are used to provide a more rounded product. Serving as a guide to the manufacture of isotonic eye lotions with a suitable pH is the following solution:[11]

Borax	**1.18 parts**
Sodium chloride	**1.00 part**
Distilled water, to make	**100.00 parts**
Preservative	**sufficient**

Very frequently other ingredients are included in such eye hygiene liquids. Valuable for their soothing and cooling influence, camphor water and peppermint water are frequent components of eye lotions, but an excess of such materials should be avoided since in high concentration they may defeat their purpose and cause irritation. An illustrative preparation of this type contains:[12]

Boric acid	**50.0 Gm.**
Sodium borate	**50.0 Gm.**
Camphor water	**250.0 cc.**
Distilled water, to make	**1,000.0 cc.**

In his text on diseases of the eye, May[13] describes an excellent eye wash, found very valuable for general and free use in the various forms of conjunctivitis, which also provides exceedingly grateful relief for washing out the eyes following exposure to wind and dust, after motoring, golfing and similar conditions that cause strain or discomfort. Said to provide superior comfort and cleansing effects, the solution is described as containing:

Sodium bicarbonate	**15 grains**
Sodium biborate	**15 grains**
Sodium chloride	**15 grains**
Glycerine	**1 dr.**
Distilled water	**8 oz.**

Eye lotions which exert a mild astringent effect, in addition to their cleansing and soothing action, enjoy a large measure of popularity. Zinc sulfate and tannic acid-containing materials are frequently used in such products. Witch hazel extract, valuable as an astringent because of its tannin content, is a rather standard component of eye lotions and washes. One fairly simple eye lotion of this type contains:[14]

Saturated solution of boric acid	**100.0 parts**
Camphor water	**100.0 "**
Extract of witch hazel, to make	**240.0 "**

A more rounded product, recommended[15] to remove dust, dirt, dried tears and oil secretions from in and about the eyes, contains:

Boric acid	**25.0 parts**
Sodium borate	**30.0 "**
Glycerine	**10.0 "**
Witch hazel water	**50.0 "**
Distilled water, to make	**1,000.0 "**

Zinc sulfate, quite a powerful astringent, is frequently utilized in the treatment of eye inflammation and conjunctivitis. Often employed in a concentration of 0.2 per cent,[10, 16] Fantus[17] states that an 0.4 per cent zinc sulfate solution is the standard collyrium for subacute orchronic conjunctivitis with but little secretion. However, he feels that zinc sulfate-containing solutions must not be used indiscriminately because they may aggravate acute conjunctivitis and many corneal disorders.

Quite a number of eye lotions or washes containing zinc sulfate are described in the literature. One rather indicative astringent eye wash, as given in a standard reference text,[12] is made from:

Zinc sulfate	**0.5 Gm.**
Sodium borate	**32.0 Gm.**
Boric acid	**16.0 Gm.**
Glycerine	**50.0 cc.**

(Continued on page 807)

HANDLING AMPULES

FOREIGN particles present in ampule solutions is one of the outstanding problems which pharmaceutical manufacturers are facing at the present time. This is due to the fact that U. S. P. specifications, which call for absolute freedom of particles is resulting in rejection of finished ampule solutions within the plants of manufacturers running as high as seventy per cent. Manufacturers are making heroic efforts to overcome conditions causing these rejections, but the problem is one that is very difficult of solution. An idea of the difficulty of the problem is given in the following extracts from two papers recently prepared on the subject. First we quote from the paper of Dr. Edgar B. Carter, of Abbott Laboratories, prepared for the 1945 Western Meeting of the American Pharmaceutical Manufacturers Association Committee on Production.

"It seems to be a matter of general agreement that the problem of making ampule solutions free from particles which may be detected by critical inspection is primarily a problem of washing the empty ampules. Solution manufacturing technique and the equipment for handling them has been developed to the point where it is quite practicable to prepare solutions that are brilliantly clear, free from particles, fibers of lint.

"In the glass works where the ampules are drawn there is a great deal of the glass dust from the saws that cut the tubing. These small glass particles get into the ampules and it is almost impossible to wash them out.

"The shape of the ampule with its very narrow neck makes the introduction of cleansing solutions difficult except through small cannulas which must deliver a sufficient amount of the solution and at the same time permit the free outlet of the solution carrying the particles which are attached to the wall.

"As we understand it the ampules that come from the machines are passed through a lehr in order to anneal them and relieve strains which would produce undue fragility. During the lehring process some of the glass dust particles become quite adherent to the wall of the ampule and apparently cannot be removed by any washing process, but they seem to become detached sometime after the ampules have been filled, autoclaved, and stored. If an ampule could be thoroughly scrubbed inside with bristles or with a rubber policeman in the presence of a detergent solution possibly much of the glass dust could be removed, but thus far it does not seem possible to apply a mechanical force in addition to the detergent action of the solutions used. All of us have observed that the particles of glass cling most tenaciously to the wet glass surface. They are quite resistant to any rinsing action.

"The ampule manufacturers have sensed the difficulty and have made a very persistent effort to solve the problem. They themselves have proposed the use

of some of the newer detergents along with the thorough spraying of the inverted ampule with copious quantities of hot water or steam and hot water.

"It appears that the ampule manufacturer has made some progress in giving the industry cleaner ampules which contain less of the glass particles than those which we obtained eighteen months ago. All of us have effected some improvements in our washing process, but so far as we can learn no one has as yet devised equipment which will successfully remove all of the glass dust that clings to the inside walls of the ampules. In the experience of the writer the larger the ampule the more glass dust is contained therein and the more difficult is the problem.

"It has been reported that the general situation on the ampules bought by the army has been improved considerably, but so far as we have been able to learn no manufacturer has as yet entirely solved the problem and apparently no one has been able to produce in commercial quantities ampule solutions that are absolutely free from particles which may be detected by reflected light when examined very critically.

"It is our belief that the Food and Drug Administration is attempting to be somewhat considerate. We believe that they are attempting to judge ampules partly, at least, by what is good commercial practice. The quality of the ampules marketed in respect to particles has improved for all of the reasons that have been enumerated above, but the quality has also been improved by a more rigorous inspection on the part of the manufacturers and by a larger percentage of rejects."

Next we quote from a paper by Robert W. Price, of Lederle Laboratories, prepared for the 1945 Eastern Meeting of the American Pharmaceutical Manufacturers Association.

"The presence of suspended particles and lint can be traced to at least four origins: 1. An unclean container (ampule). 2. An improper clarified solution. 3. Improper filling and/or sealing. 4. Crystallization or precipitation.

"Much has been written and said about how to wash ampules. Most manufacturers have their own individual procedures and we are not original in this respect. We are now experimenting with clean dry steam as a final step in the cleansing procedure, the theory being that steam, as it condenses and rinses down the walls of the container, should remove last traces of particles which remain from previous washing stages. Tap or distilled water under the usual operation conditions contains some lint or other suspended material, and is very apt to permit some specks to remain. Experiments demonstrated that steaming, in addition to the usual washing methods, reduces by nearly fifty per cent the number of defects due to suspended lint and other particles. This represents a saving of about one per cent and for an ampule of average cost would be profitable if it were accomplished without appreciably increasing labor cost in the washing operation.

"After an ampule has been cleaned, suitable precautions must be taken to keep it so until it is ready for filling and sealing. It has been demonstrated that paper liners in sterilizing cans are responsible for some of the suspended material which somehow finds its way into the ampule before filling. For this reason, and because paper will not withstand the elevated temperatures required for destroying pyrogens, a polished aluminum or stainless steel can which requires no liner is to be preferred.

"Clarification is most readily and effectively accomplished by filtration through sintered glass. Ninety mm. filters are available which will completely clarify an average solution at the rate of about twenty liters per hour under vacuum. Banks or series of such filters can be arranged to handle any desired production. As an added precaution we include such filter between the stock bottles and the filling machine which provides a second filtration before the material enters the ampule. Such precautions cost little time or money, but yield big returns.

"In the case of some solutions which are sterile filtered, we find that the usual precautions to assure absolute cleanliness of the filters, connections, and especially the bottles into which the solution is to be contained, are sufficient to insure a clear product. If asbestos pads are used it is usually necessary to recycle the first portion since some lint passes through at the beginning.

"Certain types of solutions which carbonize readily present a particular problem when filled into ampules. If a drop from the end of the filling tube or spray from solution too forcefully injected enters the ampule neck where it is being sealed, a reject caused by carbon specks almost certainly results. We have tried a variety of drop retractors, centering devices, tips, etc., and are still working on the problem, but the simplest and most practical method still appears to be to raise and lower the ampule over a delivery tube by hand. A certain aptitude and dexterity is required and we are continually in search of suitable operators among our personnel.

"If the value of the product warrants, we find it expedient to employ a second operator on the delivery side of the sealing machine, who inspects the sealed tip for black specks before the ampule is allowed to tip over and wet the neck. These specks usually occur near enough to the top so that they may be sealed off by hand without shortening the overall length excessively.

"I have been informed recently that carbonization of water-soluble drugs can be eliminated by impinging momentarily a minute jet of steam on the ampule stem before sealing.

"Many types of inspection devices are in use or have been described. We have settled for the time upon an eight inch six watt fluorescent lamp mounted in a frame six inches above the table top and shielded by a strip of metal. The light intensity at the inspection point measured forty-five to fifty foot-candles and appears to be about right for use. A background of white or

(Continued on page 806)

What Every Mother Should Know

Many mothers have learned that when chapping, chafing or other skin irritations cause their baby discomfort, Johnson's Baby Cream brings welcome relief. In millions of homes it's a nursery favorite.

This delicately scented cream is prepared by Johnson and Johnson, New Brunswick, N. J. and Chicago, Ill. Like so many quality products, Johnson's Baby Cream is securely sealed with Crown Screw Caps. These are the only caps with the patented Deep Hook Thread which gives double sealing pressure with the same application force.

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CROWN CLOSURES

Packaging and Selling

Drug and Cosmetic Sales in Super Markets

A preponderant majority of super market operations will include drug and cosmetic departments as a permanent feature after the war, according to a survey published by "Super Market Merchandising." Over 56 per cent of the operators responding will have drug and cosmetic departments, and an additional 13 per cent will market cosmetics alone, thus making a total of 69 per cent merchandising drugs and cosmetics. The tabulation was based on replies from operators controlling 2,796 markets in 38 states.

According to this same source, "it should be pointed out that the war has stimulated the addition of drugs and cosmetics in super markets, thus serving to offset losses incurred by the scarcity or discontinuance of other merchandise. But the survey indicates that these items are not simply regarded as wartime expedients; the operators are committed to expanding these departments. At present, about 37 per cent of the operators have drug and cosmetic departments, but after the war, about 57 per cent plan to engage in this business. This does not include the 13 per cent already in the cosmetic business alone.

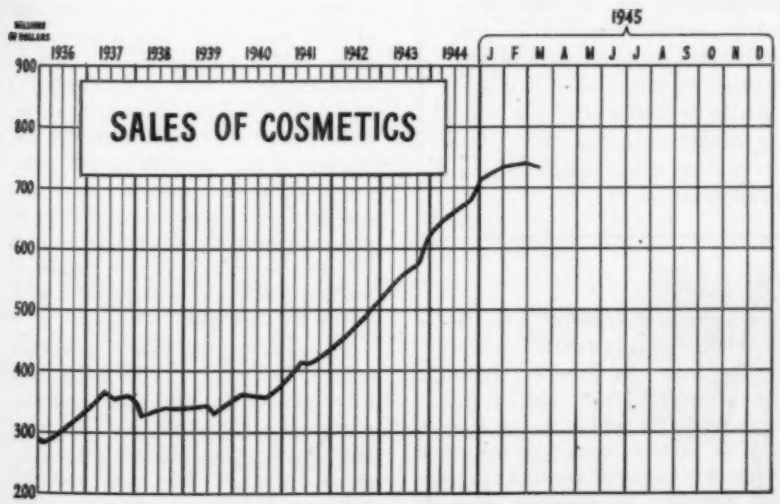
"That operators have become aware of the advantages in retailing drugs is amply demonstrated. They appreciate the high margins available on these items averaging about 30 per cent. This coupled with the fact that space requirements for drugs are not as large as for other items, has given great impetus to the development of drug and cosmetic departments. In addition, operators are cognizant that the drug part of the dollar does not compete with the food part of the dollar, but represents an additional expenditure in the market which serves to boost the overall business volume.

"On the basis of our survey, it can be said that the drug and cosmetic department as a Super Market operation has thoroughly emerged from the experimental stage—75 per cent of the operator-respondents have found it a success. Only about 3.5 per cent of the operators are still experimenting with drugs and cosmetics; and about 10 per cent have not found their attempts in that field satisfactory as yet.

"In an effort to understand why some have not found drug and cosmetic merchandising of advantage, we asked the question: Why do you feel that it has not been a successful venture? In practically all replies it was revealed that the fault was with the operator, that he had not devoted enough time nor effort to the proper exploitation of the field. The following sample statements indicate this trend forcefully: 'Has not been given enough attention . . . Variety not complete, needs personalized service . . . Pilfering is high, help too busy to watch as they should . . . Haven't merchandized properly—our fault . . . It is not adequate size, as it is only a portion of shelf space . . . We don't have it in a heavy traffic location but would be better if we spent more time in advertising . . . Not enough display room . . . Due to improper set-up and limited supply. . . .'

"Another important trend noted in the tenor of the responses on this question shows that lack of success was also due to the inability to obtain the merchandise, generally through the lack of cooperation from wholesalers or manufacturers.

"As for the overwhelming numbers of those who registered complete satisfaction with the results they obtained, the degree of success varied with the amount of effort injected into the enterprise and with the ability of the operator to handle the competitive situation in his area. In many cases, the sales volume of drugs was high without any appreciable promotion. One operator reported a $300,000 business with a gross markup of 25 per cent at the end of the year, yet, not once, did he advertise a drug item. He simply placed his department up front where people couldn't miss it, and depended on self-service to do the rest. Others, of course, have exploited the field to a far greater extent. One multi-unit organization boasts 32 drug departments with 17-foot counters. Another similar multiple-store system has nine service departments and



Retail sales of cosmetics for the twelve months ended with March 1945 totaled $733,900,000. This compares with $740,085,000 for the twelve-month period ended with February 1945, and with $651,773,000 for the twelve months ended with March 1944.

Packaging Forum

By Josephine von Miklos

Quite an argument is going on as to whether it is preferable to decorate and identify a bottle, a cake-make-up case, or the like, by means of a paper label, or by a more or less all over design executed by means of methods such as silk screening, anigraphing, etc. As so often in matters such as these, the answer probably lies as much with the problem of price, as with any other consideration. From a design stand point, it would be difficult and probably unfair to say that everything should either have a paper label or silk screen. But it seems reasonable to say that if we are dealing with a plastic item such as a make-up case, a lipstick sleeve or a rouge case, silk screening is obviously far superior to any other method of identification and decoration.

When it comes to bottles, the story is somewhat different. In the case of an inexpensive item such as cosmetic lotions, colognes or other preparations around the dollar range, a paper label would in most cases, serve best and simplest, particularly when more than one color is indicated. With the ever refined development of printing methods, and for very large runs, lithographed labels will, most likely, be best. This is also true, of course, of labels for jars. When it comes to items in the higher price ranges, the story, however, is different. Here we can afford a price of two or three cents a color; and interesting and clean effects are being obtained by silk screening even directions for use on the back of bottles and jars. When there is no limit on price . . . and oh, how we like those jobs . . . we can obtain really stunning effects in many colors of inks and produce items which look like the very finest of old days hand painted containers. To come back for a moment, to paper labels, however. It is a rather curious fact that foil labels still seem to be the thing for perfumes, no matter what price. Whether we have never dared or tried to break the French tradition, or we just haven't found a better way to make a perfume bottle look like the piece of jewelry we try to make it, we still seem to stick to embossed or debossed foil in an overwhelming majority of our work with design for perfumes.

As always, however, when we think of design, we must, in the case of silk screen, remember, that we design for silk screen and not just design. The industrial designer of this day, is making material research and application study a very large item in the realm of his activities. It is therefore, useful to remember, that silk screen does not lend itself, for technical reasons, to massive areas of color; also that fine registration is a rather ticklish thing, and that, of course, half tones or minute shadings are out. Although these facts sound rather obvious, several times lately, we have seen jobs in work where the manufacturer or designer somewhat blithely, forget them. The results were bubbly surfaces, uneven and decidedly unpleasant in effect, as well as difficulty in obtaining uniform runs.

Design for silk screen should mean bold design, with a sweep to it; a certain gaiety of line, an informality, perhaps, which happens to be very much within the trend of our present direction in many fields of design. Even the decoration of a jar of cream can readily symbolize the greater ease of living toward which we all so definitely strive.

35 self-service departments. The service departments average about $35,000 annually, returning a net profit of 10 per cent after everything including a 5 per cent allowance for pilferage was deducted. The self-service departments average $125 to $300 per store per week, carry only about 200 items and offer a gross profit of 33 per cent. The gross profit averages about 27 per cent. Almost everything in this latter operation is bought direct.

"The success of these developments has influenced others who have not entered into the field so far, to do so as soon as business conditions are more favorable. Of the 50 per cent of operators reporting no drug nor cosmetic department, 29 per cent will open drug departments and 26 per cent will open cosmetic departments. The drug departments will also experience a further increase in numbers, when those operators now participating only in the cosmetics venture, will enter into the drug field. According to a tabulation in our survey, 21 per cent of the operators contemplate such an expansion. In summary, about 26 per cent of the operators will open new drug departments among those who do not have such sections now and another 26 per cent will open cosmetic departments, among those without them now.

"A recapitulation of figures on the development of drug and cosmetic departments in the Super Market industry over the last six years, demonstrates an extraordinary growth: In 1939, approximately 20 per cent of the supers featured either complete or limited lines or departments in the drug and proprietary field. In 1943, another survey undertaken by 'Super Market Merchandising,' showed that 40 per cent of the industry was in the market for lines in the drug and cosmetic field. In 1945, according to an analysis of the latest returns on the survey, 50 per cent of the units sell such merchandise. In 194X between 60 and 70 per cent of the industry confidently expects to have such departments.

"It is not to be assumed, however, that drugs and cosmetics constitutes a principal part of the Super Market business volume. The foremost efforts of the Super Market operators in the country are still concentrated on furthering the most efficient methods for mass-merchandising foods, and that will always be their main concern. Drugs is considered as an allied line, as is demonstrated by the 3 to 4 per cent of total sales which these departments gross on the average in the market, according to the returns in the survey. In terms of annual volume, however, these departments average $13,000 per market—a considerable return when one realizes that operators have not completely exploited the possibilities of drug and cosmetic merchandising, and that this figure includes the volume of markets which have nothing but a shelf or two for such sales."

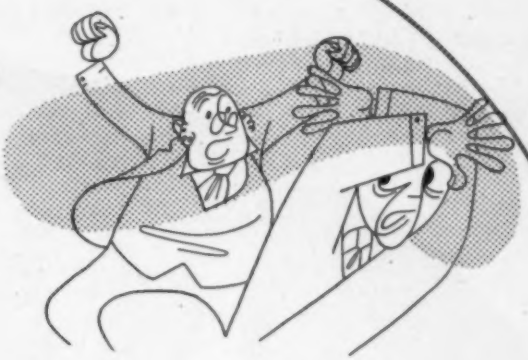
Inasmuch as the source previously quoted expects to see 8,000 super markets engaged in drug and cosmetic merchandising after the war, and inasmuch as these departments are said to do an average drug and cosmetic volume of $13,000 per unit, then simple multiplication indicates a super market volume of $104,000,000 post-war.

FLAVOR FEEBLE?

. . . SCENT GONE?

DOES HEAT RUIN

YOUR PRODUCT?



on the spot?

LET HIGH-BOILING

PROPYLENE GLYCOL

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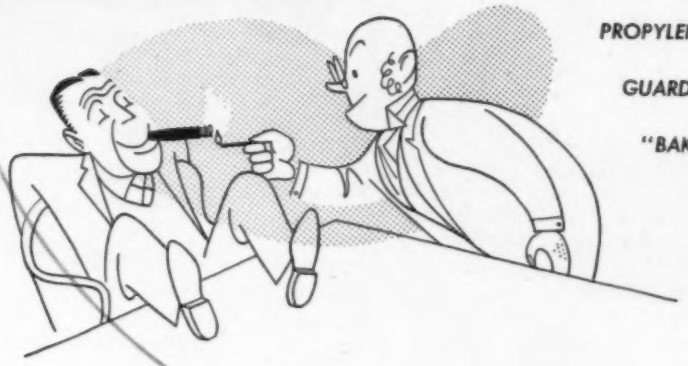

Dow Propylene Glycol, n.f.

Do scents and flavors fade away under your processing temperatures? Perhaps what your product needs is Propylene Glycol. Here is a flavor vehicle that does not boil below 365° F. . . . 153° higher than the boiling point of water. Thus more of it will stay in your product through a considerable rise in temperature . . . and help to hold flavor and fragrance in, too.

Dow Propylene Glycol is a useful low-cost solvent for a great many flavoring materials. It acts to distribute flavors evenly through every part of your product . . . and then helps to keep them there. Because it is manufactured to National Formulary standards of purity, it may be included in preparations for internal use.

A true multi-purpose material, Dow Propylene Glycol is filling many jobs in many industries. Get its whole story . . . send for Dow's free booklet today!

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CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit
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Hand-blown crystal glass vials

Individually executed by American craftsmen, these hand-blown crystal glass perfume vials by Glass Industries emphasize the impression of costliness by their delicacy and small size, ranging from a few drops capacity to one ounce. Note decorative possibilities of stopper-applicators. Items shown are available now.

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The Cosmetic Trend

The end of the war in Europe has made retailers, department stores, chains and drug stores anxious to return to normal merchandising practices. Cosmetic buyers do not expect an immediate change in buying trends. War industries will continue sufficiently busy to induce customers to maintain their present cosmetic habits which will give further support to the demand for utilities, protectives, cosmetics suitable for quick application. Income should remain upon high levels and an expected letdown in the employment of women with a resulting emphasis upon establishing the home upon its accustomed basis is bound to have a beneficial effect on cosmetic sales.

As cosmetic supplies have held up well through the war, buyers do not see any reason why the same favorable conditions should not apply for the future. If manufacturers will assure them on this point many will be willing to give cosmetics extra support during the reconversion period and cosmetic counters may take the lead in re-establishing pre-Pearl Harbor promotional practices.

One of the most immediate effects of the return of normal thinking is a growing interest in novelties. Anything that is new, has a chance to make out and if it has the support of an enterprising manufacturer will get a hearing. Late summer items such as hair regeneratives, sun-tan remedies, rinses, durable make-up should be first in line. However, there is a noticeable tendency among the most experienced buyers to move away from purely seasonal promotions on the score that novelties generally need an incubation period before growing to maturity and that, for the present at least, it will not pay to bother with purely seasonal articles, unless they hold a fair promise of turning into all-season sellers.

More attention will be paid to school opening promotions. Sales picked up substantially in cosmetic sets during early September last year and most buyers feel that this fall will repeat last year's performance. especially if early releases of materials will enable manufacturers of cases to supply the industry with suitable packages for travel, overnight and manicure sets.

Although ODT has been frowning upon extended vacation travel buyers are generally of the opinion that the summer will bring a large demand for week-end sets and cosmetic pouches and that the usual post-vacation cosmetic volume will be larger than last year as returning summer vacationists refill depleted bathroom shelves and buy new stuff for their dressing tables.

Christmas gift buying has been side-tracked, for the time being, in the expectation that present samples will be replaced by others more in keeping with the post-VE-day expectations of the customers. As an indication of what is in the mind of the average buyer, several have started to cut down on their orders of non-metal packaged items and of inferior packaged gift items, generally.

However, there is no evidence of any wide-spread tendency to hold back orders for the sake of protecting stocks against mark-down losses. Most manufacturers have shipped to their customers just enough during the past months to keep them supplied. Smaller stores in rural towns often complain that they are out of their best sellers, because of slow deliveries. So it does not look exactly as if stores were overstocked and any substandard merchandise (if any) certainly, can be easily disposed of in case manufacturers should find it advisable to make adjustments in their formulas or improvements in the appearance of the articles. At any rate, mark-down losses on cosmetics are notoriously low. When last year several manufacturers of a seasonal item offered to take back what was not sold, as dealers were getting jittery in view of the rapid progress of our armies in Europe, only a very limited number made use of the proposal. Most had not enough goods upon their shelves to make the effort worthwhile.

Embossed Sheet Metals

Rigid-Tex Corp., Buffalo, 3, N. Y., has developed a continuous-rolling technique for embossing stock and special designs on sheet metal. An interesting variety of textures and combinations may be secured by this process which should be of particular interest to makers of vanity cases.

Department Stores Get Bulk of Cosmetic Business

According to a study of buying habits in the greater Milwaukee market made by "The Milwaukee Journal," "more than 121,000 families are now buying most of their cosmetics from department stores, compared with 99,000 in 1944 and only 88,000 in 1942. The percentage has increased from 42.2 per cent in 1942 to 53.4 per cent in 1945. This swing to department store buying was partly at the expense of the independent neighborhood store, which in 1942 had 22.9 per cent and in 1945, 20.3 per cent. Chief losers are chain drug stores and syndicate stores. The chain stores dropped from 17.9 per cent in 1942 to only 10.4 per cent in 1945. The syndicate stores showed an even more precipitous drop—from 17 per cent in 1942 to 7.8 per cent in 1945.

"Sixty-seven and six-tenths per cent, or more than 153,000 families, buy most of their drugs in independent drug stores; 22.2 per cent from chain drug stores; 7.9 per cent from department stores; .5 per cent from 5 and 10c stores, or variety stores, and 1.8 "Miscellaneous." Although there have been only fractional changes between 1944 and 1945, the four year period from 1942 through 1945 presents some interesting trends. The independent drug store percentage in 1942 was only 62.1 per cent, and has increased steadily to 67.6 per cent. The chain drug store precentage on the other hand, has dropped from a high point of 27.7 per cent in 1942 to 22.2 per cent."

Selling with Color

Faber Birren has written a book, "Selling with Color," published by McGraw-Hill Book Co., 244 pages, $2.50 net. According to the jacket, "Written by one of America's leading color authorities this book brings to sales and merchandising executives, stylists, designers, etc., the useful, practical, tested principles of color. . . . Color is here treated as a business science, . . . analyzed and measured according to expensive sales records and research studies. The focus throughout is on the American consumer—the mass market—and those forces in color which will sell the most merchandise and hold the largest influence."

He knows the importance of CENTRALIZED RESPONSIBILITY

GREAT symphony music is possible because responsibility for interpretation and coordination is centralized in one man, the conductor. Smoother production, better protection for your product quality are possible when responsibility for your complete package is centralized with one reliable firm.

Anchor Hocking offers you a trouble-free source for the perfect combination—Anchorglass containers and matching, custom-fit Anchor Closures.

Try Anchor Hocking coordinated supply and service—to save time, money and misunderstanding—to make sure of containers with accurate capacity and finish—with extra strength to resist production line and transportation knocks—and caps that go on easily, seal perfectly, and keep your product in top condition.

"Meet Corliss Archer" every Thursday Evening, entire Coast-to-Coast Network, CBS.

The Lynmark line of men's toiletries distributed by Lynette Perfumes, Inc., has been repackaged in attractive gray tweed boxes with maroon bases.

Surfspray is introducing a new package under the name of Surfspray Pocket Scent which is a perfume for men, a cool clean fragrance for handkerchief use.

A gay package called the Queen Helen Mint Julep Beauty Bar—cleansing cream, Mint Julep Pack and Mint Julep Bracer—is presented by Queen Helene Cosmetics.

Cologne Pads

The House of Imperiale Russe seems to have found a new use for pads and a clever one. Large petals of cloth have been saturated with cologne in flower fragrances. Each of these "Flower Petals" contains enough fragrant cologne for the whole body, so they say, and there are fifty in the attractive container which retails at $1.50. Flower Petals are of a convenient size so that they may be easily carried in an extra loose powder compact or jewelled pill box. One or two of them, thus water-proofed, can be slipped into a handbag and used for freshening up during the day. Lengyel's Flower Petals come in three scents, Rose, Orange Blossom, and Bouvarida. While cloth pads have been saturated with cleansing preparations, deodorants, sunburn preventives, eye lotions, and hair lacquer, this appears to be the first time they have been used as cologne carriers. What lengyel really should do is to supply a small plastic compact along with the product instead of merely suggesting an extra loose powder compact for the purpose of carrying Flower Petals in a handbag. This novel way of applying a fragrance should prove an interesting summer item.

Pink Clover

Harriet Hubbard Ayer presents its Pink Clover line in redesigned packages. These beauty and bath accessories have been completely re-dressed in a series of bright new packages designed by Mary Sefton Thomas. Clover blossoms swirl across the containers in delicate pink and fuchsia tones combined with bright pastels—turquoise, emerald green, aqua-blue. The volume sellers, Pink Clover cream cologne and cologne now appear in silver-foil boxes overlaid with a clover design in pink, and vivid blue lettering.

Cosmetics for Infants

The Jean Vivaudou Co., distributors of the Orloff line of preparations for both men and women, has decided to cater to the infants with a line of antiseptic oils, emollient creams, borated and scented talcum and boric acid ointment. The preparations are packaged in copies of old apothecary jars and bottles in pastel pink or blue milk glass with floral motif. The line, intriguingly named Baby's Breath, will be distributed through baby departments throughout the country. Prices range from $1.00 to $3.75. The products will be introduced in about one hundred stores and advertising has started in Parents' Magazine.

The Eden Co. is offering an attractively packaged presentation of Garden of Eden perfume and Garden of Eden Cologne.

The House of Imperiale Russe presents a novel way of applying fragrance called Flower Petals—tinted cloth, saturated with cooling flower scents.

Harriet Hubbard Ayer offers its Pink Clover line completely re-dressed in a series of bright new packages designed by Mary Sefton Thomas.

SODA ASH

Do you know why it's used in glassmaking?

YOU would be paying much more for your glass containers if it weren't for Soda Ash. The melting point of the glass batch is lowered as much as one thousand degrees by Soda Ash, to temperatures where glass can be economically produced in large, modern commercial furnaces.

But Soda Ash also presents problems. It affects the chemical durability of the glass. Too much Soda Ash makes glass "soft," increasing its tendency to weather. Although the glassmaker uses Soda Ash to keep temperatures within operating range, he must keep the amount properly in balance to obtain satisfactory results.

Fortunately, the glassmaker can control the "hardness" and durability of his glass by adding carefully calculated amounts of other glassmaking ingredients. But this in itself is a precise procedure, which imposes additional problems in making glass containers.

The economical production of top-quality glass calls for skillful handling of Soda Ash. Armstrong's glassmakers, through long years of research and experience, have mastered this skill . . . Which is just one more reason why Armstrong's Glass enjoys its reputation for top quality.

For additional interesting information on the making of fine glass, send for your free copy of "Men and Glass." Address Armstrong Cork Company, Glass and Closure Div., 3806 Prince St., Lancaster, Pa.

ARMSTRONG'S GLASS

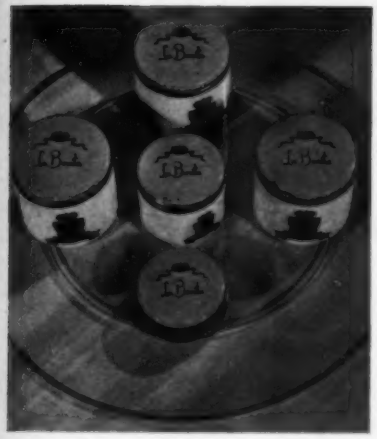
and

ARMSTRONG'S CLOSURES

Beauty Works for the Physician

BEFORE

AFTER



La Bonita packages by the House of Hollywood carry lithographed metal screw caps produced by the Aridor Co., showing the trade-mark in red and gold.

Exquisite Perfums Co. has introduced Lanalone, a natural estrogenic hormone cream for volume distribution retailing at $1.25 for the pound jar.

Before and After

Remember those old patent medicine adds which featured before and after pictures of the fortunate purchaser of "Old Chief Medicine Hat's Snakebite Cure"? Well, they're back again and, of all places, in the A.M.A. Journal.

Richard Hudnut is using before and after pictures in those hallowed pages to talk about the DuBarry Home Success Course. The headline is "Beauty Works for the Physician" and copy goes on to say that, "Every physician recognizes psychological difficulties in many cases of obesity among women. Where this is true, medical treatment can be effectively supplemented by the DuBarry Home Success Course.

"By relating principles of nutrition and exercise to an integrated program for personal attractiveness . . . including color and clothes appropriateness, hair styling, care of skin and use of cosmetics . . . the Success Course provides a strong incentive to perseverance.

"New habits of correct diet, posture and fitness are carried over into daily life, and the transformation in appearance—such as that shown in the photographs above—effects a better psychological adjustment.

The Hudnut Institute for Dermatological Research is dedicated to the more scientific formulation of beauty preparations. The DuBarry Success Course, under the direction of Ann Delafield, has guided over 175,000 women in improving physical attractiveness while safeguarding health.

A booklet, "A Psychological Approach to Weight Reduction," giving further details on the DuBarry Success Course, is available to interested physicians.

Artra Cosmetics, Inc., has announced Sutra Sunfilter lotion, designed to filter out the burning rays of the sun but permitting passage of the rays which give tan.

Kathleen Mary Quinlan presents the Ruffle Duffle, a handy purse kit which contains a metal lipstick and dry rouge in the new Crushed Coral shade.

Yes Alice!

THIS IS WONDERLAND

That mythical land of fantasy behind the looking glass was pure imagination. Today there is a wonderland that is a reality. Cool, calculating scientists have brought us a new world of glass magic. There is glass that bends, glass that floats, glass that bounces. Door hinges, ball bearings, coil springs are made of glass. It is even used as transparent armor plate in airplanes.

The manufacture of each of these miracle glasses is a highly specialized job. So, too, is the manufacture of fine glass containers.

For over half a century, Carr-Lowrey has specialized in producing glass containers of outstanding excellence. Today, a host of manufacturers accept the name Carr-Lowrey as an assurance of quality and complete satisfaction.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD.
New York Office: 500 Fifth Ave.
Chicago Office: 1502 Merchandise Mart

"For distinguished service"

Because champagne corks were "popping" in transit, Grandfather Bernardin, in 1863, designed and manufactured the metal corklock illustrated above. The original – the first metal closure made in America – inaugurated a service which, today, is the guiding principle of our activities. This service includes the analysis and solution of closure problems which may be imposed upon any manufacturer – you perhaps – by facility limitations, sales objectives, and delivery requirements.

America's First Manufacturer of Metal Closures

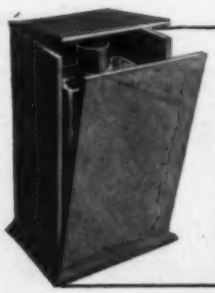
BERNARDIN
BOTTLE CAP COMPANY, Inc.
Evansville, Indiana

We would welcome discussions of your problems—if any—by mail or over a pipe in our office or yours. Why not let us be hosts to you and your troubles while we discuss Bernardin service as applied to your problems?

A trip to the moon, or a flight on a cloud . . . all are wrapped in one small package designed by WARNERCRAFT. But . . . WARNERCRAFTSMEN don't dream dreams — they build them!

In our designing rooms and on the production line, you will find us working with the latest in packaging materials in the development of dainty, reusable cosmetic boxes for Her, to sturdy containers that appeal to Him . . . in every instance giving the product complete protection and a setting that promises to fulfill a dream of new markets and increased sales.

So . . . if your dream is winning post-war markets, let WARNERCRAFTSMEN design and build a package for your product that will make that dream a reality.



Warnercraft Tekwood* is one of the many new packaging improvements developed by Warnercraftsmen for post-war use. Light in weight as cardboard, yet many times as strong, it is adaptable to any type of covering. It is especially suitable for boxes intended for re-use.

*REG. U. S. PAT. OFF.

WARNERCRAFT

"THE FINEST WORD IN PACKAGING"

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers.

THE WARNER BROTHERS COMPANY

Main Office and Factory: 325 Lafayette Street, Bridgeport, Conn.
New York Sales Office: 200 Madison Avenue, New York, N. Y.

That describes an Alcoa Aluminum Tube exactly. They have the stamina required to last until the contents are used. Don't start leaking like a sieve.

In the old days, certain products could not be packed satisfactorily in aluminum tubes. Now, if there is any question of reaction between tube and product, chances are Alcoa's Packaging Laboratory can recommend how to overcome it with a coating inside.

So don't hesitate on that score. The problem now is one of supply, limited by the war. But that may change quickly, and now is the time to prepare for it. Write ALUMINUM COMPANY OF AMERICA, 1841 Gulf Building, Pittsburgh 19, Pa.

ADVANTAGES OF ALCOA ALUMINUM TUBES

Aluminum is non-toxic, will not contaminate the product and render it injurious.

Alcoa Aluminum Tubes have sturdy shoulders and sound walls, good to the last squeeze.

Expertly lithographed decorations are crisp, colorful, tops in eye appeal.

An appreciable saving in shipping costs results from the light weight of aluminum.

You will find the prices of Alcoa Aluminum Tubes to be interestingly low.

ALCOA

ALCOA ALUMINUM TUBES

"...and, Gentlemen, speaking of postwar packaging..."

COATED LITHWITE IS GOING TO PUT MORE EYE-APPEAL AND BUY-APPEAL INTO OUR CARTONS"

SIX YEARS AGO, when Gardner-Richardson introduced *Coated* Lithwite, it caused a sensation. Here for the first time was a fine paperboard—formed, made and coated in one single high-speed operation.

SALESMEN, RETAILERS, CONSUMERS give it a big okay, for *Coated* Lithwite is brighter, more eye-appealing. Colors come up with greater brilliance on its smooth, velvety, chalk-free surface. Halftones print with sharp realism.

PRODUCTION ENGINEERS also give *Coated* Lithwite folding cartons a big okay. Precision-made for precision filling machines—*Coated* Lithwite cartons speed through with fewer jam-ups or delays. Score accurately without flaking or shattering. Take a positive seal.

CLIP THIS! File this Coated Lithwite memo for reference when this quality paperboard is again available.

1. Made by a revolutionary process. Coated Lithwite is the brighter, whiter paperboard that is formed, made and coated in one high-speed operation. Proved and improved for six years.

2. Means more eye-appealing cartons. Coated Lithwite's smooth, velvety, chalk-free surface forms a better base for printing inks and plates—reproduces even the smallest type cleanly, crisply. Brings colors up brilliantly—gives halftones a sharp realism.

3. Fewer jammers and leakers. Coated Lithwite scores without flaking or shattering. Takes a positive, tight seal.

The Gardner-Richardson Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

LOOKING INTO THE FUTURE

...n you think of bottles
think of
Swindell
...achine made and hand made
...lass containers for cosmetics,
drugs and beverages.

SWINDELL BROTHERS, Inc. BALTIMORE, MARYLAND

200 FIFTH AVENUE, NEW YORK ROBERTO ORTIZ—HAVANA, CUBA

"The bigger the family—the better the service"

LUCKY the man who has a big family of kids to wait on him! So is the customer who consults Continental, largest united family in packaging.

We can give you unusual service. The variety of containers we're making now is proof we'll give you the container you need.

Impartial research analyses by experts, and wide facilities assure you we can produce your ideal package. We make metal containers, liquid-tight paper cups and containers, fibre cans and drums, steel pails, and varied heavy duty containers.

Right now we're working hard for Uncle Sam. But keep your eye on Continental! And on Continental's trademark, too! The Triple-C stands for *one* company with *one* policy—to give you only the very best in quality and service.

Tune in: "REPORT TO THE NATION" *every Saturday over coast-to-coast CBS network*

Continental Fibre Drums—Continental makes a full line of fibre drums, both the all-fibre and the metal-end types, for shipping chemical and pharmaceutical products. "FIBERPAK," an all-fibre drum (from ¼ gal. to 67 gal. capacity), and "LEVERPAK" (from 12 gal. to 75 gal. capacity), for finer chemicals and similar expensive materials; "STAPAK" Drums (from 2 gal. to 32 gal. capacity) for less costly materials such as soap powders, cleansers, colors, detergents. Wide selection of linings, coatings, treatments and constructions to meet specific requirements.

CONTINENTAL CAN COMPANY, INC.

CONTINENTAL PAPER DIVISION

FIBRE DRUMS The Container Co., Van Wert, Ohio

LIQUID-TIGHT FOOD CONTAINERS — Boothby Fibre Can Co., Roxbury, Mass.

PAPER CUPS AND FOOD CONTAINERS — Mono Containers, Newark, N. J.

COMBINATION PAPER AND METAL CONTAINERS

Headquarters: 330 W. 42d St., New York 18, N. Y.

13 Plants — Sales offices in all principal cities

5 FACTORS *that urge your use of* Clearsite*

plastic CONTAINERS

featherlite — eye-appeal — process-labeled when made

PLASTIC CONTAINERS AND PLASTIC PRODUCTS

In CELLU*PLASTIC* Clearsite containers you have the most modern packaging improvement of all time. . . . They are made in one piece, *seamless*, their resilience protects them against breakage. Supplied in lustrous transparent or opaque finish; in any colors. Made in sizes from 3/8 inch to 1½ inch diameters, and in varied lengths. What's more, they are ATTRACTIVE;—they are preferred by hundreds of manufacturers for scores of products.

Ask for samples and details!

CELLUPLASTIC CORP.

CELLUPLASTIC CORPORATION

EXTRUSION AND INJECTION MOLDERS

60 AVENUE L NEWARK, N. J.

WEST COAST REPRESENTATIVES CONTAINER SERVICE CO., 1266 North Western Avenue, Los Angeles 27, Cal.

Well, nobody will hurt you, Mr. Bottle! You are not hunted to be EATEN, but to be usefully put to work. Mr. Slowey promises that he'll put you in safe hands. He says he has many quantities of bottles, containers, and caps of all shapes and sizes, and that many business men will be glad to know where to get just the lot they need.

Numerous businesses have met real "bottlenecks" due to lack of proper containers. Here's the way to solve this important problem: Contact the Glass Container & Cap Outlet Company and you'll be pleasantly surprised to find that a variety of sizes, quantities, shapes, and forms of bottles and caps are available for immediate shipment to you!

CONTACT US TODAY

glass container & cap outlet co.

876 Broadway
New York 3, N. Y.

NOW ONE AIM...
A QUALITY THAT WILL SELL
In confections as in staple foods or fussy tolletries you can set the product standard. But consumers will make their first choice from what they see. Why not hold out the invitation of an attractive, useful package? What better way to introduce product quality!
Folding cartons made of Ridgelo Clay Coated Boxboard quickly suggest that their contents are leaders in the field. For these boxes are smoother, brighter, cleaner-looking. Designs on Ridgelo do look like those engraver's proofs.
Back up costly research, equipment, materials by inviting buyer acceptance—a modern carton of Ridgelo Clay Coated is a small expense in the large game of winning your market.
Leaders point the way to
Ridgelo
CLAY COATED
BOXBOARDS
MADE AT RIDGEFIELD, N. J.,
BY LOWE PAPER COMPANY
★ Do Your Share In The Waste Paper Campaign ★
Representatives: Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
Gordon Murphy and Norman A. Buist, Los Angeles • A. E. Kellogg, St. Louis • Philip Rudolph & Sons, Inc., Philadelphia

STAINLESS STEEL MIXING *and* STORAGE TANKS

Depend on San-I-Tanks for safe handling of all your liquids and chemical preparations. The ideal tank for storage, mixing or processing purposes. Built by tank specialists, San-I-Tanks incorporate every time saving, money saving feature. For special tank adaptations consult our engineers for their recommendations, no obligations, of course.

Government restrictions prevent deliveries at present of stainless tanks for the processing of cosmetics and toiletries. We invite your inquiries for delivery at future date

√CHECK THESE PRODUCTION and EFFICIENCY INCREASING FEATURES

Fabricated throughout of 18-8 Stainless Steel, No. 4 polish on inside, bright finish outside. San-I-Tanks are built to last.

All inside welds are ground smooth and polished. San-I-Tanks are built right throughout.

San-I-Tanks incorporate special self-draining features with specially formed bottoms sloping to the front.

San-I-Tanks are rust-resistant, easy to keep clean and sanitary because of their Stainless Steel construction.

Many special extras available in stock for San-I-Tanks such as covers, motors, agitators, etc.

Built by craftsmen with years of tank building experience—you are assured of years of trouble free, efficient service when you insist on San-I-Tanks.

METAL-GLASS PRODUCTS CO. Dept. D **Belding, Mich.**

Yes Sir!
We Can Package Them For You

Open capacity now available on High Speed Automatic Machinery for packaging dry powders - drugs - cosmetics - chemicals.

Our complete custom packaging service includes mixing and preparation as well as packaging in cartons, cans, envelopes, paper tubes or set-up boxes.

The Stevens-Wiley Manufacturing Co., Inc.

Hancock, Palethorp & W. Berks Streets, Philadelphia 22, Pa.

Phones—Regent 1616-1617

A MAN *is judged by the company he keeps!*

A MAN is judged by the company he keeps. And so a company is judged by the companies it services. Take Trans-Pac, for instance, and scan its roster of important clients. We're proud to service organizations like these. Proud to have them endorse our own high standards by letting us package their products!

Soon many new and superior packaging materials will be available. Whether it's pliofilm or glassine lamination, we can plan your package needs now. In addition to our own staff, we also work closely with the engineering and research divisions of the leading manufacturers of packaging supplies.

Our long experience dealing with diversified products enables us to supply the best in modern packaging. Post-war packaging plans can formulate, however, only as soon as facilities are available. Until that time, we should be pleased to advise you on your particular packaging needs.

TRANS-PAC SERVICES, INC.
PACKAGES PRODUCTS
for the following organizations:

EASTMAN KODAK CO.
CAMPBELL'S SOUP CO.
J. C. ENO, INC.
BLOCK DRUG CO., INC.
CHEF BOY-AR-DEE, INC.
FOSTER MILBURN CO.
THE NORWICH PHARMACAL CO.
LEADER NOVELTY CANDY CO., INC.
GENERAL MILLS, INC.
C. J. VAN HOUTEN & ZOON, INC.
THE ANACIN CO. "WHITEHALL"
CARTER PRODUCTS, INC.
BREAKSTONE BROS., INC.
MARLON CONFECTIONS CO.
JOHNSON & JOHNSON INTERNATIONAL
WALLACE & TIERNAN CO., INC.
HUMPHREY'S MEDICINE COMPANY
DR. D. JAYNE & SON, INC.
KORAL LABORATORIES, INC
THE ARNER CO., INC.
THE KNOX CO.
DORSET FOODS, LTD.
CONFECTION CABINET CORP.
AMERICAN DIETAIDS CO., INC.
UNION FOODS PRODUCTS COMPANY
ROMANOFF CAVIAR COMPANY

TRANS-PAC SERVICES, INC.

302 WEST 52ND STREET, NEW YORK 19, N. Y.

STAINLESS STEEL MIXING *and* STORAGE TANKS

Depend on San-I-Tanks for safe handling of all your liquids and chemical preparations. The ideal tank for storage, mixing or processing purposes. Built by tank specialists, San-I-Tanks incorporate every time saving, money saving feature. For special tank adaptations consult our engineers for their recommendations, no obligations, of course.

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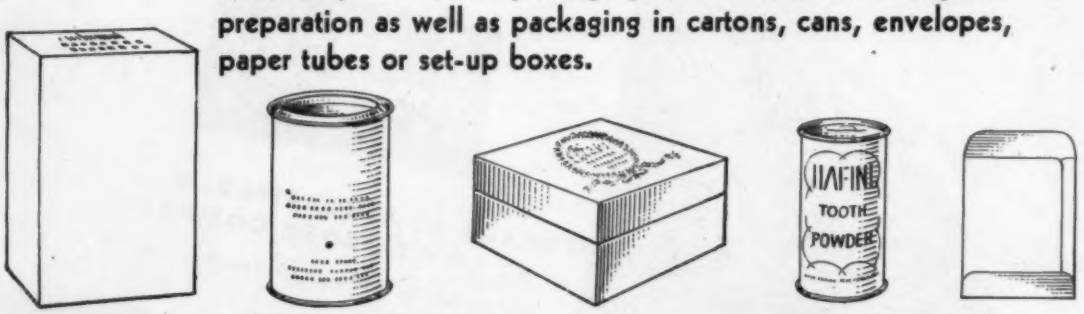

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MARLON CONFECTIONS CO.
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WALLACE & TIERNAN CO., INC.
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TRANS-PAC SERVICES, INC.

302 WEST 52ND STREET, NEW YORK 19, N. Y.

BRIDGEPORT...

For the past two years our facilities have been devoted almost exclusively to the production of war materials. We have been fortunate, in that we have been able to handle this work on the same equipment used for our regular peace time products, and, consequently, when material again becomes available for lipstick containers, vanity cases and other metal cosmetic items we will be prepared to start producing our regular line immediately. If you too are planning your post war program, we will be glad to assist you.

THE *BRIDGEPORT* METAL GOODS MFG. CO.

Established 1909

BRIDGEPORT 'PHONE: BRIDGEPORT 3-3125 CONNECTICUT

VANITY CASES • ROUGE CASES • PASTE ROUGE CONTAINERS • LIPSTICK HOLDERS (ALL TYPES) • POWDER BOX COVERS • EYEBROW PENCIL HOLDERS • BOTTLE CAPS • JAR CAPS • METAL NOVELTIES TO ORDER

Over ⅓ Century of Dependability

- BOTTLES
- JARS
- CLOSURES

...and remember, Ceramic coloring and lettering at our GLASSCRAFTERS Division

W. BRAUN CO.

300 N. CANAL ST. . . . CHICAGO 6, ILL.

SHEET METAL GOODS

SPRINKLER TOPS

CORK TOPS DOSE CAPS

CONSOLIDATED FRUIT JAR COMPANY

NEW BRUNSWICK, N. J.

CONSOLIDATED OFFERS

1—World automatic Straightaway Labeller.
1—90 gal. stainless steel jack. Kettle.
1—No. 5 Sweetland Filter, 20 copper leaves.
1—Stokes Auger type Powder Filler.
1—Semi-automatic Labeling Machine.
5—Dry Powder Mixers, up to 2000 lbs.
20—Aluminum, Copper, Glass Lined, jacketed and agitated Kettles.
1—Abbe Blutergess Sifter No. 2.
2—Colton No. 3 Toggle Presses.
3—Stokes Steam Water Stills, 5, 10, 25 gal. per hour.

Only a partial listing. Send us your inquiries.

We buy and sell from a Single Item to a Complete Plant

CONSOLIDATED PRODUCTS CO., INC.

20-21 Park Row, New York, N. Y. Shops: 335 Bremen Ave., Newark, N. J.

LUSTEROID

Pattern for Post-War Packaging

From a merchandising standpoint, an effective package is second in importance only to the product itself.

For many practical reasons, it will pay you to pattern your future packaging around LUSTEROID vials and tubes.

These crystal-clear containers protect as they display. They are featherlight. Unbreakable. Require no labeling because LUSTEROID is printable. No partitioning or protective packing. All colors of the rainbow—clear or opaque.

Sizes ¼" to 1¼" in diameter and lengths up to 6". Cork, slip-on or screw-cap closures.

Write for post-war details

LUSTEROID CONTAINER CO., INC.
Formerly Lusteroid Division of Silcocks-Miller Company
Office and Factory
10 W. PARKER AVENUE, MAPLEWOOD, N. J.
MAILING ADDRESS: SOUTH ORANGE, N. J.

Plastics by Kurz-Kasch ...Salesmen for Cosmetics!

CHECK display value! Check unit costs! Check sales appeal! There's no argument that cosmetics in plastics move with more speed and more profit.

And there's no argument that cosmetic packaging by Kurz-Kasch stands out. We invented the screw-top plastic rouge box—and since then, cosmetic manufacturers large and small have come to us for all types of containers. For stock molds or individualized, high-styled custom jobs, it will pay you to see Kurz-Kasch first.

SAVE waste motion and loss by consulting the molder who knows cosmetic packaging best. Right now we can help you plan post-war packaging for cream rouge, dry rouge, mascara, face powder or lipstick. Your inquiry involves no obligation.

THERE ARE STILL WAR BONDS TO BE BOUGHT . . . LET'S BUY 'EM!

Kurz-Kasch

For over 25 years Planners and Molders in Plastics

Kurz-Kasch, Inc., 1421 South Broadway, Dayton 1, Ohio
Branch Sales Offices: **New York • Chicago • Detroit • Indianapolis**
Los Angeles • Dallas • St. Louis • Toronto, Canada
Export Offices: **89 Broad Street, New York City**

1,000,000,000,000
ONE TRILLION UNITS FOR THREE MILLION PATIENTS

On Feb. 20, 1945 a bottle containing the trillionth unit of Penicillin was delivered by the Pfizer package assembly line. At an average rate of 300,000 units per patient this means that Pfizer Penicillin has been made available for approximately three million soldier and civilian patients suffering from infectious diseases.

The World's Largest Producer of Penicillin

PFIZER QUALITY

Chas. Pfizer & Co., Inc.

MANUFACTURING CHEMISTS • ESTABLISHED 1849

81 MAIDEN LANE, NEW YORK 7, N. Y. • 444 W. GRAND AVE., CHICAGO 10, ILL.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

• CHEMICALS FOR THOSE WHO SERVE MAN'S WELL-BEING •

NEWS...

Dodge & Olcott Sold to U.S.I.

U. S. Industrial Chemicals, Inc. has announced that the assets and business of Dodge & Olcott Co. were merged with those of U.S.I. as of June 1. It was emphasized that the new subsidiary will continue to operate as a separate entity under the Dodge & Olcott name and will retain its present management, headed by Francis T. Dodge, president, and Charles A. Myers, V. H. Fisher and Charles O. Homan, vice-presidents.

F. T. DODGE

One of the oldest companies in the United States, Dodge & Olcott Co. traces its origin back to 1798. When the company's few products were imported from England by packet ship. During the past five years the company has made important strides in the development of products for the insecticide and disinfectant industry and these developments are expected to dovetail profitably with the activities of U.S.I. whose product Indalone has proved successful as an insect repellent.

Foster-Forbes Buys Demuth Glass

Foster-Forbes Glass Co., Marion, Ind., has announced the election of R. H. Barnard to the board of directors of the company and also the purchase May 8 by Foster-Forbes Glass Co. of all of the stock of the Demuth Glass Works, Inc., Brooklyn, N. Y. The Demuth Glass Works, Inc., which has plants in Brooklyn and Parkersburg, W. Va., will be operated as a wholly owned subsidiary. John G. Clarke will remain as president of Demuth and the company will continue to produce glass products for the industrial and illuminating fields, and for the packaging of pharmaceuticals and biologicals.

Tysdal Joins Pharma-Craft

Elmer B. Tysdal, for more than two years head of the cosmetic unit, Drugs and Cosmetics Branch, War Production Board, has resigned to become production manager of Pharma-Craft Corp., Chicago, manufacturer of "Fresh" deodorant cream. The work of the cosmetic unit of the Drugs and Cosmetics Branch will now be taken over by the medicinal chemicals unit.

Associated Products Now

Lewis J. Ruskin, president and owner of Associated Distributors, Inc., Chicago, has announced that the corporate name has been changed to Associated Products, Inc. Associated Products, Inc. is the owner of the following companies: Chen Yu, Inc., Madame Huntingford, Inc., 5 Day Laboratories, Inc., Dewans, Inc., and Tattoo Limited.

Mayham to Speak on Radio

S. L. Mayham, executive vice-president of the Toilet Goods Association, Inc., will be guest speaker July 8 on the coast-to-coast Mutual network program of the Union Pacific Railroad. Tribute will be paid to the nation's cosmetic manufacturers in one of a series of salutes to business and industry.

The program is heard every Sunday from 4 to 4:30 (EWT) over 125 Mutual stations, and originates in Omaha, headquarters of Union Pacific.

Dr. Thompson Resigns from Warner

Dr. Marvin R. Thompson, president and director of research of William R. Warner & Co., Inc. and director of the Warner Institute, has resigned. After

MARVIN THOMPSON

July 1, Dr. Thompson will devote all of his time to personal interests.

Moss Advanced by Monsanto

Henry V. Moss has been transferred from the research laboratory of Monsanto Chemical Co. at Carondelet, Mo., to Anniston, Ala., as supervisor of inorganic research. All research activities at Carondelet have been moved to Anniston.

CHARLES A. MYERS

V. H. FISHER

CHARLES O. HOMAN

Zicht Joins Lane; McDaniel Succeeds

Effective June 1, 1945, Austin F. Zicht became first vice-president of Lane Drug Stores, Atlanta, Ga., by board election.

Mr. Zicht was executive secretary of the Associated Chain Drug Stores and secretary and treasurer of the H. S. Benedikt Co. Inc., New York, for the past ten years. Previously he was secretary and treasurer of the Gallaher Drug Co., Dayton, Ohio, for fifteen years.

E. D. McDANIEL

E. D. McDaniel succeeds Mr. Zicht as executive secretary of the Associated Chain Drug Stores and secretary and treasurer of the H. S. Benedikt Co., Inc., buying office serving the chain drug stores.

Mr. McDaniel was formerly president of Vitamins Plus Division of Vick Chemical Co. and before that was vice-president in charge of sales of White Laboratories, Newark, N. J.

Tyrrell and Gallagher Retire

Retirement of Charles P. Tyrrell, secretary and treasurer, and Martin J. Gallagher, member of the staff of the Proprietary Association of America, was announced at a dinner given by the association's executive committee at the Biltmore Hotel, May 3. Both were presented with inscribed gold watches "in appreciation of faithful service."

Mr. Tyrrell, former assistant manager of the Syracuse Medicine Co., has been with the association since 1907. He became secretary and treasurer in 1914. Mr. Gallagher has been on the association's staff in Washington since 1919.

Foragers Annual Outing

The forty-eighth annual outing of the Foragers of America will be held at Timber Point Country Club, Great River, Long Island, on June 30.

Dinner to Fred Stock

An informal testimonial dinner honoring Fred J. Stock, recently of WPB and now associated with Chas. Pfizer & Co., was held in the Wedgewood Room of the Waldorf-Astoria Hote, New York, May 21, with about 130 of Mr. Stock's friends in attendance. In recognition of the splendid work that he did for the Government and the pharmaceutical manufacturing industry a chest of flat silverware was presented to him.

Brooks Again Heads T.G.A.

H. L. Brooks, president of Coty, Inc., has been re-elected president of the Toilet Goods Association for his tenth consecutive term in the mail election just concluded.

Other officers and directors elected are: vice-presidents, Paul H. Douglas, Bourjois, Inc., William M. Bristol, Jr., Bristol-Myers Co., and H. P. Willats, Colonial Dames, Inc.; treasurer, Paul F. Vallee, Roger & Gallet; secretary, Joseph Keho, Dorothy Gray, Ltd.; and vice-chairman of the scientific section, Dr. Mark W. Tapley, Sterling Drug, Inc.

Members of the executive board whose terms will expire in 1948 are: J. C. Ozier, Plough, Inc.; Davis Factor, Max Factor & Co.; J. H. McShane, Pacquin, Inc.; Northam Warren, Northan Warren Corp.; Norman F. Dahl, Prince Matchabelli, Inc.; George A. Wrisley, Allen B. Wrisley Dist. Co.

Board members whose terms expire in 1946 are: L. R. Root, Scovill Mfg. Co., and A. L. van Ameringen, van Ameringen-Haebler, Inc.

At a meeting of the executive board it was voted to retain the following staff: S. L. Mayham, executive vice-president; H. D. Goulden, director of scientific research and standards; Henry Etsch, assistant secretary; Hugo Mock, counsel; and Gail B. Selig, associate counsel.

National Vitamin Distribution Assn.

National Vitamin Distributors Association, which was organized in July 1944, held its first annual convention in Chicago, April 28 and 29.

Members elected to the board of directors were: Henry H. Burdick, president of Mineral Research, Inc., Des Moines; H. L. Fuller, president of Q-V Corp., Kalamazoo; S. C. Fulkerson, president of Professional Foods, Cedar Rapids; H. S. Moore, Milwaukee, distributor for Vitaminerals Co., Los Angeles; and L. L. Roby, president of VV Concentrated Foods, Tiffin, O.

The following officers were elected: president, Henry H. Burdick; first vice-president, H. S. Moore; and second vice-president, S. C. Fulkerson.

Dwight S. James, attorney, Des Moines, was appointed executive secretary-treasurer and general counsel for the association for a two year term. The central office of the association is at 914 Walnut Bldg., Des Moines 9.

Leaders of the proprietary industry at a dinner in New York from left to right: Richard K. Hines, Vick Chemical Co.; James Hill, Jr., Sterling Drug Inc.; A. H. Diebold, American Home Prods. Corp.; Harold Thomas, Pedlar & Ryan; Kenneth Bonham, Emerson Drug Co.; Charles P. Tyrrell, retired secretary and treasurer of the Proprietary Assn.; Rome Land, Orvon Specialty Drug Co.; Lupton Patten, Chattanooga Medicine Co.; Ed Hyde, Mentholatum Co.; Dr. Frederick J. Cullen, Proprietary Assn.; Joseph D. Bohan, Centaur Division of Sterling Drug Inc.; Robert M. Dunning, Vick Chemical Co.; George Miller, Musterole Co.; Martin Gallagher, retired staff member Proprietary Assn.; William Y. Preyer, Vick Chemical Co.; Charles S. Beardsley, Miles Laboratories; John Norton, Lambert Pharmacal Co.; A. K. Barta, secretary and treasurer of the Proprietary Assn.

It takes all three to make an Aspirin tablet!

- *A fine chemical of measured purity*
- *Your technical skill in manufacturing*
- *Rigid laboratory control in your plant*

Millions of aspirin tablets like this one move off druggists' shelves every year – to help prevent colds, to relieve millions of headaches and to deaden pain.

Small, unimpressive-looking, this tablet is nevertheless made with infinite care by a number of leading pharmaceutical houses.

And in that making, are these three vitally important factors:

– selection of the most uniform quality acetylsalicylic acid, which is the foundation of an aspirin tablet.

– scientific compounding and processing of all the ingredients into a quality finished product.

– rigid laboratory control, including testing of all raw materials, and constant testing of the product as manufactured.

The first of these factors is, naturally, one of great concern to Baker.

And it is equally important to the aspirin tablet manufacturer.

Choosing a fine chemical with purity to the decimal – such as Baker's acetylsalicylic acid U.S.P.– makes the manufacturer's job easier all the way.

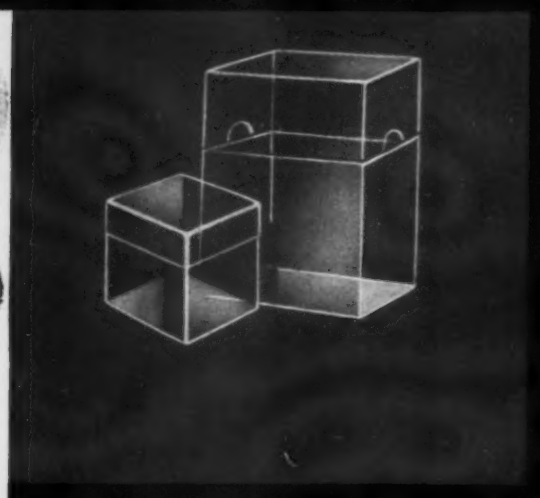
For more than 40 years, Baker has built its chemical business on measured purity. That is why leading pharmaceutical and drug companies choose Baker as a source of supply. They know that Baker's purity by the ton in fine chemicals is the result of unique control methods and ceaseless testing.

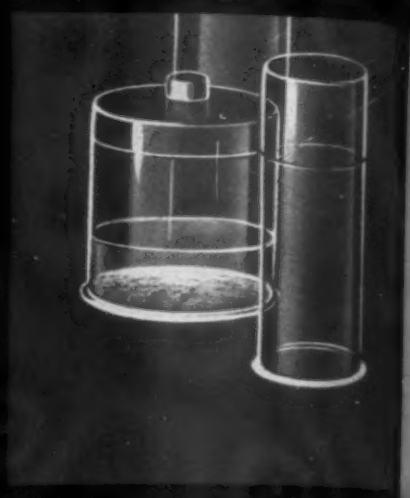
When you specify any Baker fine chemical, you specify quality *at the beginning* and you get it. Both your compounding and your laboratory control are simplified. You have quality insurance for your products.

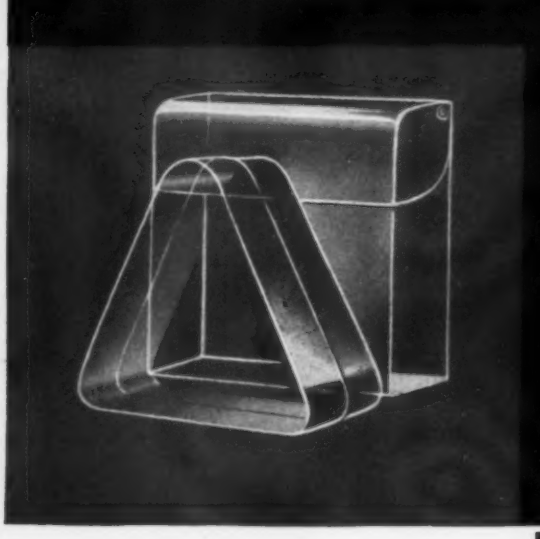
J. T. Baker Chemical Co., *Executive Offices and Plant:* Phillipsburg, N. J.; *Branch Offices:* New York, Philadelphia and Chicago

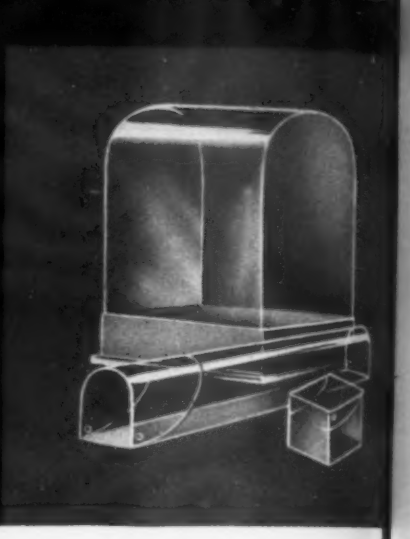
Baker's

FINE CHEMICALS









extra product protection + extra sales appe

Many packages afford product protection—many afford sales appeal. But in Ethocel Sheeting, you find both these qualities—with fabrication advantages that can lower packaging costs.

Protection? First requirement of practically every package is lasting protection—to keep the product in factory-new condition in spite of shipment, handling and shelf wear. This means rugged containers—containers that are able to "take it"—containers that are a barrier to costly damage.

Sales Appeal? Perhaps not now, but certainly soon. Once more products that sell will be products that attract the eye. Appearance has always been a major selling help and the trend is toward transparent packages that act as individual display cases.

Fabrication? Naturally, it's important from the standpoint of economy that packages be quickly and simply fabricated without "babying" the material.

All of these requirements are met by Ethocel Sheeting. The properties* of this top ranking packaging material are well worth investigation.

Ethocel Sheeting rigid, transparent packaging

DOW

PLASTICS

FOR BETTER PACKAGING:

SARAN FILM • ETHOCEL SHEETING • STRIPCOAT • STYRON

Paul Alexander Now Captain

Paul W. Alexander, on leave as advertising representative of DRUG AND COSMETIC INDUSTRY, was promoted to the rank of captain in the Army of the United States on May 3, somewhere in France. He entered the armed forces March 17, 1941 and was graduated

CAPT. P. W. ALEXANDER

from the Officers' Training School at Fort Benning, Ga., as a second lieutenant in the infantry May 1, 1942. He was made a first lieutenant in October 1942 and went overseas in September 1943. In England he became connected with SHAEF and was sent to France in July 1944 where he is still with SHAEF.

Major Tilston Wins Cross

Major Frederick Albert Tilston, Windsor, Ont., former sales manager of the Bayer Co., Ltd., a subsidiary of Sterling Products, Ltd., became the tenth Canadian to win the Victoria Cross, top-ranking award for valor in the British Empire. In the action which won him the medal, Major Tilston lost both his legs below the knee in addition to suffering other wounds. He is now recuperating in an English hospital and looking forward to resuming his association with Bayer.

Thomas Returns from Philippines

James G. Thomas, manager of the Philippines branch office of the Winthrop Chemical Co., Inc., has returned to this country after liberation from the Santo Tomas prison where he was confined with his wife and daughter, Jayne, 5, from January 7, 1942 to February 4, 1945. After three years of starvation diet, with the last year particularly severe, Mr. Thomas weighed only 123 pounds on his arrival in this country. He has been associated with Winthrop since April, 1936.

Col. Weicker Earns Reward

Colonel Lowell Weicker, president of E. R. Squibb & Sons now on leave to the U. S. Army, has been awarded the Legion of Honor, Order of Chevalier, and the Croix de Guerre with Palm by the French government "for exceptional services rendered in the course of the campaign for the liberation of France." Col. Weicker is deputy director of intelligence attached to the staff of Lieut. Gen. Carl Spaatz, senior American air commander in the European theater.

Col. Weicker is also holder of the Legion of Merit.

Bowles Advanced by Schering

Elliott A. Bowles has been made vice-president and general manager of the Union Pharmaceutical Co. and Artra Cosmetics, Inc., Bloomfield, N. J. Mr. Bowles was formerly assistant to the president and chairman of Schering Corp., parent organization of the Union and Artra companies.

Couzens Joins Bristol-Myers

Frederick E. Couzens has been appointed assistant director of the professional department of Bristol-Myers Co., New York. Mr. Couzens was born in England and traveled extensively in England and on the continent in connection with his father's business. In 1922 he went to Australia where he

FREDERICK E. COUZENS

remained for six years working with two advertising agencies as sales promotion and merchandising executives on drug accounts. In 1928 he came to the United States and joined an export advertising agency. From there he went to Reese Laboratories as sales manager and, later, general manager. In 1938 he joined the Borden Co. as sales manager of the prescription products division.

Col. Perkins Returns to Merck

Colonel George W. Perkins has been re-elected executive vice-president and treasurer of Merck & Co., Inc., Rahway, N. J. Col. Perkins, who also is a director of the company, has been on leave of absence since April 1942 when he entered government service.

COL. GEORGE W. PERKINS

With the Army, he served as chief of the Field Requirements Division, Field Operations Command, Chemical Warfare Service. He was awarded the Legion of Merit for contributions to the success of chemical operations in the field and for the establishment of a basis for anticipating future requirements in chemical warfare. He served in both the European and Pacific theaters of operations and most recently was stationed in Washington.

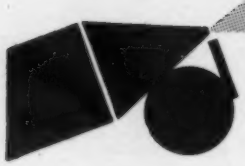
Col. Perkins originally was elected executive vice-president and treasurer of Merck in 1927.

Sgt. Doane Hage Jr. Freed

Doane Hage, New York representative of Arthur Colton Co., was notified by the Red Cross May 17 that his son Sgt. Doane Hage, Jr., U. S. 8th Air Corps., had been liberated from the German prison camp where he had been for two years and would soon be home.

His plane, a B-17 on which he was waist gunner, was shot down over St. Nazaire, France, being hit six times by heavy flak. The nose of the ship was blown off, part of the tail shot away and the two right wing motors shot away. The ship caught fire and plunged to earth, carrying four of the crew with it and as it struck, all bombs exploded, as they had not been released. One boy was machine-gunned as he parachuted to earth and only Sgt. Hage and one other escaped serious injury. For two years he was in prison camp at Krems, Austria, and was never moved.

ORBIS "Aquaspray"



PERFUME OILS

(REQUIRE NO ALCOHOL)

ORBIS "AQUASPRAY" PERFUME OILS are recommended for the preparation of sprays for deodorizing and purifying foul air in homes, institutions, hospitals, theatres, etc. They require no alcohol.

By merely mixing 3 ounces of Aquaspray Perfume Oil and 3 ounces of Formaldehyde Solution U. S. P. with sufficient water to make 1 gallon, a spray in a permanent milky emulsion form is obtained at a finished cost of less than 38 cents per gallon.* This is a real profit producer.

*Based on the gallon price of "Aquaspray."

ODORS AVAILABLE

Apple Blossom	Honeysuckle	Mint	Pineneedle
Bouquet Kashmir	Jasmin	Narcisse	Rose
Bouquet #550	Lavender	New Mown Hay	Syringa
Carnation	Lilac	Orange Blossom	Violet
Gardenia	Locust Blossom	Persian Bouquet	Wintergreen

PRICE: $2.00 per pint, $14.00 per gallon

A request on your letterhead will bring further details and sufficient sample for 1 quart of finished spray.

ORBIS

PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK · FACTORY & LABORATORY, NEWARK, N.J.

CHICAGO 660 North Dearborn St. · PHILADELPHIA 610 Brown Bldg. · MEXICO, D. F. Apartado Postal 8019 · BOSTON 89 Broad Street · LOS ANGELES 1807 E. Olympic Blvd. · MEMPHIS, TENN. 1620 Carr Ave.

Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
Thymol	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

Leach and Henderson—Warner Directors

John M. Leach, vice-president and house counsel and Ralph W. Henderson, vice-president and general plant manager, have been elected directors of William R. Warner & Co., Inc.

Dr. Schultz Rejoins N.Y.Q.

Dr. Joseph Schultz has been appointed director of research for New York Quinine & Chemical Works, Inc., Brooklyn. Dr. Schultz received his B.S. at Columbia University and his Ph.D. at Goettingen, Germany. He was in the research department of N.Y.Q. from 1935 to 1940. For the past five years, he was chief chemist of Lady Esther Co., Chicago.

Lueders Veterans Add Four

During the past year four new members have been added to the Veterans Association which is composed of employees of George Lueders & Co. who have a service record of twenty-five years. The newest members are William Allstadt, John Clifford, Louis Weissenberger and Frank Drugan. Each member was given a watch and a luncheon at the Drug and Chemical Club.

Firmenich's 50th Anniversary

This year marks the fiftieth anniversary of the founding of Firmenich et Cie (Chuit, Naef) of Geneva, Switzerland. May 15 marked the ninth anniversary of the opening of the New York office of Firmenich & Co. A cocktail party was held at the Gramercy Park Hotel in New York, May 15, in celebration of the event.

Leggatt Visits Here

Noel F. Leggatt, general manager of the Australian branch of Frederick Stearns & Co. Division, Sterling Drug Inc., is making his first visit to this country. Meetings in his honor have been planned in Detroit and New York and he is expected to spend about six weeks in this country.

Mr. Leggatt has served Stearns in Australia for the past fifteen years. He became general manager four years ago and prior to that was advertising manager.

Winthrop Advances Jordan

J. Gill Jordan has been elected assistant secretary of Winthrop Chemical Co., Inc. He has been associated with Winthrop for sixteen years and since 1936 has been divisional manager of the San Francisco professional service office.

From 1927 to 1929 he was general merchandise manager in charge of sales of Whelan Drug Co., Chicago, and from 1924 to 1927 was with the Chas. H. Phillips Chemical Co. in Chicago.

Foster-Forbes Changes

Foster-Forbes Glass Co., Marion, Ind., has announced that Charles V. R. Thompson has assumed the direction of the New York sales office of its A. C. James & Co. division which will continue to be located at 11 West 42 St.

Frank W. Britt, formerly in charge of the New York office, has been elected secretary and treasurer of the company's newly acquired subsidiary, Demuth Glass Works, Inc., Brooklyn, N. Y.

McKesson Advances Lipscomb—Hildebrandt Succeeds Him

Charles T. Lipscomb, Jr., vice-president who has been in charge of the Industrial Chemicals Division of McKesson & Robbins, Inc., since 1942, has been appointed to the new post of assistant general sales manager. He

CHARLES T. LIPSCOMB, JR.

will assist I. H. Bander, vice-president in charge of drug and sundry sales.

F. Dean Hildebrandt, formerly a partner in Hildebrandt & Co., Chicago,

F. DEAN HILDEBRANDT

succeeds Mr. Lipscomb as head of the Industrial Chemicals Division, and Walter R. Heyer, who has been in charge of New York operations for the division now becomes an assistant vice-president and sales manager for the department.

Warner to Build in St. Louis

William R. Warner & Co. has announced plans for the erection of a modern six-story building between Valentine and Spruce Streets, St. Louis. The new building will be used for the manufacture of pharmaceutical products.

Bristol-Myers Moves in Dallas

Bristol-Myers Co. has moved its southwestern branch to larger quarters at 3020 Canton St., Dallas, and its midwest branch to 444 Lake Shore Drive, Chicago.

Dr. Harold Raistrick, Sc.D., professor of biochemistry at the University of London and director of biochemistry and chemistry at the London School of Hygiene and Tropical Medicine was honored at a dinner given by Wyeth, Inc., in Philadelphia. Dr. Raistrick is at the far end of the table on the left. Clockwise from him are: H. S. Howard, president Wyeth, Inc.; G. Raymond Rettew, F. F. Law, C. W. Heathcote, Jr., R. A. Beeson, W. C. Hovey, Dr. John Reichel, S. V. Smith, E. F. Voigt, Alfred Barol, Dr. E. T. Stiller, Richard Roley, H. S. Duke, Dr. Paul Gyorgy.

Abbott Advances Thornburg

C. A. Thornburg has been elected assistant treasurer of Abbott Laboratories. Mr. Thornburg went to Abbott from the Union Trust Co. in Cleveland in 1924. He was elected a director in 1937, and has been comptroller since 1932.

C. A. THORNBURG

N. Y. Quinine Officers

At the annual meeting of stockholders of New York Quinine & Chemical Works, Inc., held May 9 the following directors were re-elected for another year: Irving McKesson, Donald McKesson, Francis J. McHugh, Louis L. Pio, and J. W. H. Randall.

Following the stockholders meeting the directors elected the following officers: Irving McKesson, president; Donald McKesson and Francis J. McHugh, vice-presidents; Louis L. Pio, secretary; Francis J. Reid, assistant secretary; and Albert A. Young, assistant secretary.

Doctor's Degree to Maney

Paul V. Maney, vice-president of Barlow-Maney Laboratories, Cedar Rapids, Iowa, has been given the degree of Doctor of Philosophy in Pharmaceutical Chemistry at the University of Iowa, Iowa City. This advanced degree is the second of its kind ever to be awarded at the university and was conferred upon Dr. Maney in recognition of his thesis on "The Synthesis, Pharmacological and Clinical Testing of Drugs Used in Treatment of Disorders of the Heart."

Bomer Returns to Bristol-Myers

Walter L. Bomer, vice-president of Bristol-Myers Co., New York, who is in charge of the company's overseas operations, has returned to his office after a year's illness. He was recently honored by being elected president of Bristol-Myers Quarter Century Club.

Dr. Hilleman Awarded Prize

Dr. Maurice R. Hilleman, a member of the scientific staff at the New Brunswick laboratories of E. R. Squibb & Sons, has been awarded the Howard Taylor Ricketts prize for outstanding research on viruses. Dr. Hilleman who last year received a Ph.D. from the University of Chicago, was given the prize for developing a method of making anti-serum valuable in identifying recently discovered group viruses in the university's department of bacteriology and parasitology.

Head Named Club V.P.

Frank M. Head, vice-president and general merchandise manager of United Cigar-Whelan Stores Corp., was elected

FRANK M. HEAD

first vice-president of the Sales Executives Club of New York at a meeting held May 16.

Barta—Proprietary Assn. Secretary

A. K. Barta, for the past five years a member of the staff of the Proprietary Association in Washington, has been elected secretary and treasurer. Mr. Barta, who succeeds Charles P. Tyrrell, practiced law in Washington before joining the Proprietary Association.

James Hill, Jr., association president, has also announced the following changes in the executive committee: Joseph D. Bohan, vice-president of Sterling Drug Inc., succeeds Harold D. Thomas, now with Pedlar and Ryan, New York; S. Reising, president of Guild Co., Ruppert, Vt., succeeds Thomas Singleton, formerly with the Murine Co., Chicago, and now with Sherman and Marquette, Chicago advertising agency; and John Norton, vice-president of Lambert Pharmacal Co., St. Louis, succeeds Robert L. Lund, who recently retired as vice-president of that company.

Smith to Assist Silbersack

In his new association with American Home Products Corp., Gerald Smith, former vice-president of Gelatin Products Corp., Detroit, will serve as assistant to Walter Silbersack, executive vice-president of American Home Products.

GERALD SMITH

Mr. Smith entered the pharmaceutical business fourteen years ago with C. E. Jamieson, Detroit.

Chicago Bowlers

The Bowling League of the Chicago Perfumers, Soap & Extract Association held a party May 10. Dinner followed the playoff for the president's trophy and plans for the 1945–46 bowling season were discussed. John A. A. Scott is chairman of the bowling committee.

Philadelphia Association Annual Dinner

The Veteran Druggists Association of Philadelphia held its twentieth annual dinner at McAllisters banquet rooms May 18. John K. Auginbaugh, president of the association, presided and the speakers were Charles H. Grakelow, director of supplies and purchases of Philadelphia, and Lieut. Col. Paul B. Rupp, chief of chaplains at Valley Forge General Hospital.

Arrangements for the dinner, which was attended by about 200, were under the direction of Wm. F. Kiefer of George Lueders & Co., and J. M. Rosenberger of Smith, Kline & French.

Boston BIMS Golf

Pete Niles, chairman of the BIMS of Boston, has announced the following golf parties for this summer—the first, June 19 at Commonwealth Country Club and the second, July 19 at Woodland Golf Club. There will be a fall party, details for which are incomplete.

ADVERTISEMENT—*This entire page is a paid advertisement.* *Prepared Monthly by U. S. Industrial Chemicals, Inc.*

U.S.I. CHEMICAL NEWS

June ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1945

Airco Export Corp. to Represent U.S.I. in Foreign Markets

Mr. Glenn L. Haskell, President of U. S. Industrial Chemicals, Inc., has announced that the newly formed Airco Export Corporation has been appointed the selling agent for U.S.I. in all foreign countries except Canada.

In anticipation of a greatly expanding export market, the Airco Export Corporation is directing an intensified program on the sale of U.S.I. chemicals, resins, and other related products.

Airco Export Corporation has opened new offices and display rooms at 33 West 42nd Street, New York. Mr. H. R. Salisbury has been named President of the new corporation. The world-wide coverage of the Airco Export Corporation provides the logical medium through which U.S.I. will make its bid for increased foreign sales of chemicals and resins in the postwar era.

Process Using Ethanol Lengthens Shirt Life

To produce an air-and-water permeable fabric for collars and cuffs which will outwear the shirt, the inventor of a new process proposes a multi-ply fabric impregnated and bonded with ethyl cellulose.

The fabric plies, alternating with layers of cellulose acetate film, are first sewn together to form an assembly. A solution of ethyl cellulose and ethanol is prepared, diluted with water, and the cellulose-fabric assembly is padded through the solution until the fabric is saturated. It is washed, partially dried, and the damp assembly is then subjected to a pressure of 100 lbs. per square inch between plates at 175 deg. C.

The smooth, stiffened fabric thus obtained is integrally bonded together and is thoroughly permeable to air and moisture.

An alternate process uses a di-ortho-xenyl mono-phenyl phosphate plasticizer with ethanol, and ethyl cellulose.

Wear-resistance of these new stiffened fabrics appears to be substantially higher than untreated fabrics, although wear-resistance is decreased by repeated washings.

Chemical Properties Altered By X-Rays

Quartz and other crystalline materials undergo changes in elastic constants and chemical properties when subjected to ultra-short radiation such as x-rays and cathode rays, and to deutron bombardment from a cyclotron.

Of immediate interest is the use of this technique in setting and modifying oscillation frequencies of crystals used to control radio and radar equipment.

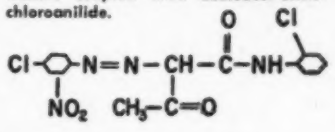
Since irradiation by the new x-ray technique greatly modifies the rate of solution and chemical reaction of crystals, it opens up a new field of photo-chemistry.

Bright Future Seen for Arylides in Making Improved Yellow Dyes

Use of Benzidine and Hansa Yellows Promises to Continue on Large Scale Despite Postwar Return of Chrome Yellows

Although the current shortage of metallic sodium has temporarily halted U.S.I.'s production of acetoacetarylides, the company looks forward to early and large-scale use of these intermediates in the synthesis of Hansa yellows and the newer benzidine yellows which have demonstrated both practical and economical advantages over the chrome yellows.

A typical "arylide" end product, Hansa yellow 3G. Diazotized p-chloro-o-nitro aniline coupled with acetoacet-ortho-chloroanilide.



Originally used as replacements for chrome yellows, these two yellows were found to possess several marked advantages over the unavailable chromes for which they were substituting. Printing inks made with the "arylide" dyes were more workable than those made with chrome yellows. Their greater tinctorial strength made brighter, clearer colors possible for pigmenting paper and protective coatings. This same high tinctorial strength also made the price differential between the new dyes and the chromes insignificant, for they go so much further than the chrome yellows.

Benzidine Yellows

Benzidine yellows are produced by combining tetrazo benzidine with acetoacetarylides. The yellow dyestuffs which result are non-bleeding in water, and in dilute acids and alkalies. In addition, they are fairly resistant to melted paraffin, alcohol and other common organic solvents except chloroform.

By varying the intermediates used, a great number of yellows can be produced having different characteristics of shade and fastness to various agents.

Hansa Yellows

Hansa yellows are made by coupling acetoacetarylides with diazotized aniline derivatives. The resulting dyes are particularly resistant to the action of sunlight and alkalies; qualities which make them desirable for formulating coatings to be used in exposed places. Like benzidine yellows, Hansas can

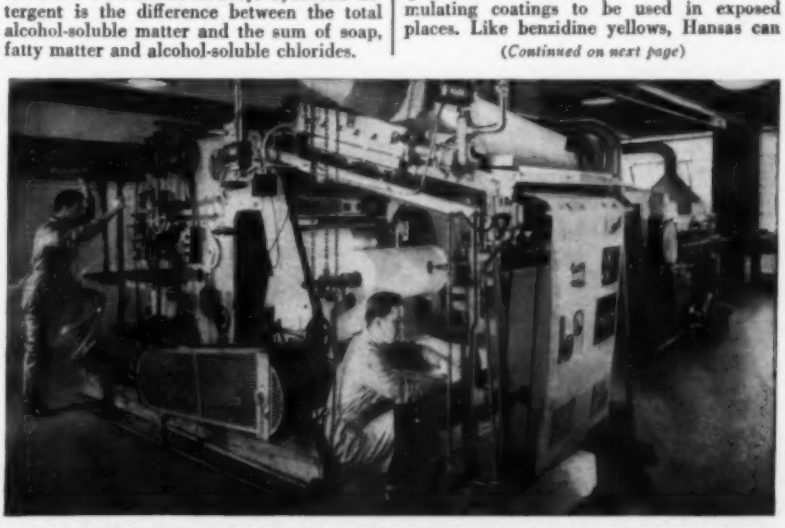
(*Continued on next page*)

Quick Test for Moisture Content of Dried Fish

In the usual method of testing dried fish for moisture, the fish are dried in a vacuum oven at 70 C. A new method, developed in Cape Town, S. A., is faster, and gives results to within 0.5 per cent of those secured by the usual method. The fish are extracted with boiling alcohol for 15 minutes, followed by determination of the critical solution temperature, with a paraffin-white oil mixture.

Analyzes Detergent Mixtures

Mixtures of soap and synthetic detergents may be analyzed by a new method which is said to give accurate results. The alcohol-soluble portion is extracted with ethanol, and the alcohol-insoluble salts are reprecipitated. Soap, fatty matter and alcohol-soluble chlorides are determined directly. Synthetic detergent is the difference between the total alcohol-soluble matter and the sum of soap, fatty matter and alcohol-soluble chlorides.



In the manufacture of colors for inks, Hansa yellows and the newer benzidine dyes have proven to be more practical, and just as economical as the prewar chrome yellows.

ADVERTISEMENT—*This entire page is a paid advertisement.*

June ★ **U.S.I. CHEMICAL NEWS** ★ 1945

Arylide Yellows

(Continued from preceding page)

be produced with widely varying characteristics by varying the intermediates.

Of the many factors that influence the quality and uniformity of Hansa and benzidine yellows, perhaps the most important is the purity of the acetoacetarylide intermediates. The exacting production methods employed by U.S.I. reduce impurities to a negligible minimum. Just as soon as there is an easing in the huge present demand for metallic sodium, U.S.I. will resume production of:

acetoacetanilide
acetoacet-ortho-chloroanilide
acetoacet-para-chlorounilide
acetoacet-ortho-toluidide
acetoacet-ortho-anisidide

In addition, U.S.I. has developed the following new compounds:

acetoacet-para-anisidide
acetoacet-para-phenetidide
acetoacetyl-alpha-naphthylamine
NN'-diacetoacetbenzidide
acetoacet-cresidide
acetoacet-dianisidide
diacetoacetyl-meta-toluylenediamine
ortho-phenylacetoacetanilide
acetoacet-para-nitroanilide

Samples of a majority of these intermediates are available for laboratory experimentation.

Ethanol, Acetone and Ether Aid Hormone Preparation

Prolactin, a lactogenic hormone extracted from the anterior lobe of the pituitary, is being used in treatment of cases of delayed or insufficient lactation.

This new biological is prepared by stirring an acetone-dried powder extract of animal anterior pituitaries with ethanol to which concentrated hydrochloric acid has been added. After centrifuging, the supernatant liquid is decanted and precipitated with 1-molar sodium hydroxide to provide a pH value between 7 and 9.

The last step is to settle the precipitate under refrigeration, separate it by filtering or centrifuging, and drying it with ether. Its assay is 10-12 Riddle units per milligram.

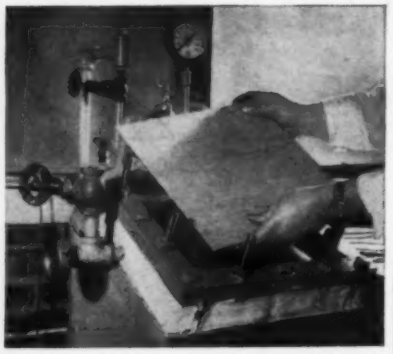
Ethanol Used 5 Times To Produce Galacturonic Acid

A purer α-d-galacturonic acid, for use in pharmaceuticals, is claimed for his newly patented process by a Pennsylvania inventor. Starting with a pectin and heated water mixture to which an enzyme system has been added, the solution is allowed to cool to 40 C. Following addition of toluene, the solution is kept at room temperature until the iodine number becomes constant, when it is concentrated under reduced pressure.

After warming to 60 C., ethanol is mixed with the concentrated solution, the insoluble material is permitted to settle, and the remaining sludge is washed by decanting twice with ethanol. Then the decanted wash liquor is chilled, and more insoluble gummy material is permitted to settle.

Following further purification with activated charcoal, the filtrate is concentrated, seeded and chilled. The mass of crystals which forms is broken up, triturated with ethanol, filtered, washed with ethanol and then dried. The resulting product is said to be a very pure α-d-galacturonic acid.

AMERICA'S ONLY "TIN MINES" are in American kitchens. Turn in your empty tin cans regularly.



To study plywood adhesives, U.S.I.'s resin laboratories have designed and built this miniature glue press which duplicates conditions encountered in large presses. The specimen to be laminated is placed between a rubber sheet and a steel plate. Air pressure expands the rubber sheet, firmly and uniformly forcing the plywood against the steel plate. Steam generated within the chamber supplies the heat.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

A coating for magnesium promises to extend the use of this light metal in industry. One coat is said to provide a decorative finish for interior use, while two or more coats give years of outdoor protection. There is also a clear finish for polished magnesium surfaces. **(No. 942)**

USI

A new enamel, intended for painting surfaces exposed to very low temperatures is claimed to be acid-fume resistant, odorless and non-yellowing. Supplied in white, it may be tinted with oil colors. A companion primer is offered for application on asphalt and mastic finishes. **(No. 943)**

USI

A soybean drying oil is claimed to be practically the equal of linseed oil for use in paints, varnishes and synthetic resin products. It comes in two viscosities, F-G and D-E. **(No. 944)**

USI

Maintaining oil viscosity at a given point, and independent of temperature change, is the announced function of a new additive for lubricating and hydraulic oils. **(No. 945)**

USI

A light-colored plasticizer, developed specifically for use in light-colored GR-S stocks and black stocks which will not stain light finishes, is announced. The new compound is said not to affect the rate of cure appreciably. **(No. 946)**

USI

Alternates for citrus oils, to flavor candy and other food products, are announced. Standard flavors are orange, lemon and lime. **(No. 947)**

USI

A new line of metallic phosphates is announced as ready for post-war production. One is said to impart ultra-violet radiation properties to glass, and to give it superior optical, electrical and mechanical qualities. The second, a white pigment, and a third, a source of enriching iron for foodstuffs, are mentioned. **(No. 948)**

USI

New aliphatic derivatives, made up of the even-numbered normal hydrocarbons from C_8 to C_{18}, and their corresponding olefins, alcohols, ethers, mercaptans, etc., are suggested for use in cosmetics, plasticizers, corrosion inhibitors, oil additives, insecticides and stabilizers. **(No. 949)**

USI

A new hand cream to remove paint, as well as lacquer, enamel and resins, is designed to be worked into the skin like soap, then rinsed off with water. **(No. 950)**

USI

A colloidal aluminum-silicate gel, with a particle size ranging from 0.1 micron to 1 micron, is offered with the statement that it may be moderately acidified or alkalized without physical or chemical reactions. It is recommended for use in rubber, adhesives, paints and similar products. **(No. 951)**

USI

To protect frozen foods, a new thermosetting coating, applied by dipping, is described as forming a homogenous protective film over the entire product. **(No. 952)**

U.S.I INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND ST. NEW YORK 17, N. Y. — BRANCHES IN ALL PRINCIPAL CITIES

ALCOHOLS
Amyl Alcohol
Butanol (Normal Butyl Alcohol)
Fusel Oil—Refined
Ethanol (Ethyl Alcohol)
Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof, C.P. 96%
Absolute
*Super Pyro Anti-freeze
*Solox Proprietary Solvent
***ANSOLS**
Ansol M
Ansol PP
*Registered Trade Mark

ACETIC ESTERS
Amyl Acetate
Butyl Acetate
Ethyl Acetate
OXALIC ESTERS
Diethyl Oxalate
Diethyl Oxalate
PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate
OTHER ESTERS
*Diatol
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloroanilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloroanilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate
ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.
FEED CONCENTRATES
*Curbay B.G.
*Curbay Special Liquid
*Vacatone 40

ACETONE
Chemically Pure
RESINS
S&W Ester Gums—all types
S&W Congo Gums—raw, fused & esterified
S&W *Aroplaz—alkyds and allied materials
S&W *Arotene—pure phenolics
S&W *Arochem—modified types
S&W Natural Resins—all standard grades
OTHER PRODUCTS
Collodions
Ethylene
Ethylene Glycol
*Indalone
Nitrocellulose Solutions
Urethan

Fauser Appointed by Warner

Erwin F. Fauser has been appointed executive vice-president and general manager of William R. Warner & Co., Inc., New York. He was also elected a director of the company. Mr. Fauser will continue to act as president and general manager of Standard Laboratories, Inc., a new Warner subsidiary organized to distribute the company's proprietary products.

Georgi Promoted

Pierre Harang, vice-president of Houbigant Sales Corp., New York, has announced the appointment of H. T. Georgi as manager of the wholesale and chain drug store divisions of the company. Mr. Georgi has been with Houbigant for twenty years, and for the past sixteen has been district sales manager in the metropolitan New York area.

Henshaw Joins Associated Products

Jere Henshaw has been appointed sales promotion manager of Associated Products Inc. Mr. Henshaw comes to Associated Products, Inc., from Hirestra Laboratories and for many years prior to that he was vice-president and general sales manager of Elmo Laboratories.

Stanton Labs. Expands Production

Stanton Laboratories, Wyncote, Pa., has purchased property in the Manayunk section of Philadelphia, consisting of two buildings extending over 157,000 square feet. A four-story building of 25,000 square feet is being equipped for increased production of thioglycolic acid and its salts.

Eberhardt Joins Lueders

A. R. Eberhardt has been engaged to represent George Lueders & Co. in Wisconsin, Minnesota, Nebraska, Iowa, Arkansas, Oklahoma and Fargo, N. D., Sioux Falls, S. D., Kansas City and St. Joseph, Mo., and Denver.

Rolstad Joins Michigan Chemical

Marvin J. Rolstad has been appointed manager of the insecticide division of Michigan Chemical Corp., St. Louis. Mr. Rolstad has had fifteen years experience in the insecticide business, with McLaughlin Gormley King Co., Rohm and Haas Co., U. S. Industrial Chemicals, Skol Co. and Geigy Co., and is qualified to head the marketing of Michigan Chemical's DDT insecticidal concentrate and Methyl Bromide.

MacBain Advanced by Bristol-Myers

Gavin K. MacBain has been elected assistant treasurer of Bristol-Myers Co. Mr. MacBain joined the company last year.

Dotter Joins Ortho Products

John M. Dotter has joined Ortho Products, Inc. as advertising manager, replacing C. E. Wagenman who has resigned. Mr. Dotter was formerly advertising manager of Sandoz.

Collier Joins Primrose House

William D. Collier has been appointed promotional sales manager of Primrose House, New York. For the past five years he has been with Prince Matchabelli and previous to that was with Richard Hudnut as a territorial representative.

Chilean Air Corps officers on a month's flying tour of the United States visit the Bristol-Myers Co. plant at Hillside, N. J. With the Chileans are E. W. Love, production manager, Raymond R. Leonard, executive assistant, E. G. Ladewig, export manager and Captain Ray Stridde and Colonel William Lane of the United States Army.

J. & J. Elects Dr. Smith Director

Dr. David F. Smith, director of research of Johnson & Johnson, New Brunswick, N. J., has been elected a director of the company, and Claude V. Swank, director of manufacturing, has been elected vice-president.

Dr. Smith joined Johnson & Johnson in April 1942. For three years he was research associate at the University of California under a grant from the National Research Council.

Alice Lake Joins Phys. Drug & Supply

Alice Lake, formerly vice-president of the George B. Evans Laboratories, Inc., Philadelphia, has joined the Physicians' Drug and Supply Co., Philadelphia, where she will have charge of the chemical division.

Cardinals' Eighth Child

Paul J. Cardinal, head of the bulk vitamin division of Hoffmann-La Roche, Inc., Nutley, N. J., and Mrs. Cardinal have announced the birth of their eighth child. They already had three sons and four daughters.

Tarsaidze with Esme of Paris

Alexander Tarsaidze has been appointed director of sales for Esme of Paris, New York. Mr. Tarsaidze has in the past been vice-president and treasurer of Prince Matchabelli and president of Parfums Chevalier Garde.

Von Miklos Moves to New Canaan

Josephine von Miklos, industrial designer, has moved her studio and workshop from New York to New Canaan, Conn. Miss von Miklos will concentrate on various post-war projects, including research in new materials for use in both pre-fabricated houses and general products development. She will continue to contribute monthly articles to DRUG AND COSMETIC INDUSTRY.

Estrogenics Investigated

The Food and Drug Administration is making a national investigation of the manufacture of estrogenic substances because some of the substances on the market are believed to be adulterated and not to contain adequate amounts of estrone. The products of nineteen distributing companies have been investigated and fifteen seizure orders have been issued. Products of six of the firms investigated have been found satisfactory.

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flavoring strength...

richer aroma *Ethavan*

Manufacturers who use Ethavan (Monsanto's pure ethyl vanillin) have discovered that it is economical because its flavoring strength is approximately three times that of vanillin.

Too, its pronounced and pleasing aroma imparts a highly desirable added bouquet to the finished product.

Ethavan has won wide acceptance with manufacturers of pharmaceuticals, confections, beverages, soaps and bakery goods. Because of its many superior qualities Ethavan may be the key to improving your product while reducing your production costs.

Every step in the production of Ethavan Monsanto is guarded by strict laboratory control. Uniform, high quality is *always* assured.

We shall be pleased to send you technical information and samples of Ethavan. Please contact the nearest Monsanto office or mail the coupon below. MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri. District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle, Montreal, Toronto.

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Please send without cost or obligation, sample and data on Ethavan.

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*Company*_____
*Street*_____
*City*_____ *Zone*____ *State*_____

Solvents for Indulin

Industrial Chemical Sales, division of West Virginia Pulp and Paper Co., has issued a bulletin on "Solvents for Indulin." Tables are arranged in two parts, the first dealing with single solvents, the second with two component mixtures containing half by weight of each solvent. Indulin is a new product and no data on its solubility have been compiled before. Copies are available upon request.

Bristol-Myers Preferred Stock

Plans to offer to the public $10,000,000 of preferred stock have been announced by Bristol-Myers Co. An underwriting syndicate headed by Wertheim & Co. will offer the stock soon after the close of the 7th War Loan Drive.

Sterling Drug Preferred Stock

Stockholders of Sterling Drug Inc. at the company's annual meeting June 14 voted on the issuance of $12,500,000 of preferred stock. The proposal calls for 125,000 shares at $100 par value. The reason for issuing the preferred stock is to make available to the corporation cash funds to retire temporary bank loans of $9,500,000 and to finance much needed expansion of the corporation's plant facilities in the United States and abroad. The bank loans were incurred to finance the purchase by the corporation of the Class B shares of Winthrop Chemical Co.

Stockholders also voted on a proposal that the company's stock be split two for one through authorization of 5,000,000 shares of common stock of $5 par value in place of the present 2,000,000 shares of capital stock of $10 par value.

Stanco Offers Molding Compound

Stanco Inc. has announced the development of a new improved Dipex, a molding compound for use in production of surgical goods in natural and synthetic rubbers. When wartime restrictions are lifted Dipex will have possibilities for use in the molding of white and light colored articles including rubber aprons and sheets, bathtubs for infants and other infants' articles, children's toys, hot water bottles, bathing caps, milking machine parts and white wall tires. It is said to give clear sharp designs, is freely soluble in water and may be applied in solution by spraying, brushing or dipping.

Bryant Appointed by Hudnut

Donald L. Bryant has been appointed advertising manager of Richard Hudnut, New York.

Dodge Cork Buys Factory

Dodge Cork Co., Inc., Lancaster, Pa., has purchased a new factory building in that city. Containing nearly 100,000 square feet of floor space, it will not only replace a former building destroyed by fire last January, but will provide adequately for the company's future expansion.

Turner F. Currens

Turner F. Currens, retired vice-president and director of the Norwich Pharmacal Co., and a director of the board of trustees of the Columbia University College of Pharmacy of the City of New York, died at St. Vincent's Hospital, New York, May 23, at the age of 65.

TURNER F. CURRENS

He was born in Germantown, Ky., spent his boyhood in Matoon, Ill., and was graduated in 1898 from the St Louis College of Pharmacy with the degree of PhG. After a brief period as a pharmacist in St. Louis, he worked for the Tilden Co. as traveling salesman, remaining until February 1904 when he joined the Norwich Pharmacal Co. Making his headquarters at the Chicago branch of the company, he covered northern Illinois for about nine years. In January 1913 he was transferred to New York where he became manager of the New York branch of the Norwich Company. He was elected a director of the company in 1920 and a vice-president in 1921.

Mr. Currens was active in the American Drug Manufacturers Assn., the American Pharmaceutical Assn., New York State Pharmaceutical Assn., and was a past chairman of the executive committee of the Drug Chemical and Allied Trades Section of the New York Board of Trade.

He retired from active business September 1, 1940, though he remained a director of the Norwich Pharmacal Co. until a few months prior to his death. Shortly before Pearl Harbor, he joined the staff of the Drug and Chemical Division of the War Production Board at Washington as chief of the Botanical Drug Unit. He remained until September 1943 when his mission was accomplished.

W. Stanley Rendall

W. Stanley Rendall, budget director of Anchor Hocking Glass Corp., died May 23 at Lancaster, Ohio, after a long illness.

Mr. Rendall, a native of London, England, came to this country in 1926 and had been affiliated with Anchor Hocking Glass Corp. since 1939.

Dye for Sea Rescues

It has been estimated that over thirty per cent of those rescued at sea during the war owe their lives to the lifejacket "dye marker," a waterproof bag-full of Uranine, the sodium salt of fluorescein, manufactured by the Calco Chemical Division of the American Cyanamid Co. A pound of the dye will color approximately an acre of ocean a brilliant yellowish green, easily detectable against the dark background of the sea. The dye for hundreds of thousands of the markets has already been made by Calco as standard equipment for rubber rafts and life jackets.

Bottlers Machinery Handbook

The U. S. Bottlers Machinery Co. has issued a reprint of "Bottling Engineer Handbook," a 192-page book published first in 1940. It contains engineering data, useful in the bottling and packaging of liquids and semi-liquids, which has enabled bottlers of such products to compare and determine the best method and practice for handling their own bottling problems. Copies are available upon request.

Standard Synthetics Catalog

Standard Synthetics, Inc., New York, has issued a new catalogue of the essential oils, aromatic chemicals, flavors and perfume bases offered by the company. Copies of this thirty-two page booklet are available upon request.

It won't say "NO" to NEW ideas in packaging

Too often the use of a good merchandising idea is held up or abandoned because the packaging machinery cannot be adapted to handle it . . . This is something to guard against in planning for postwar selling.

Here's what happens right along. One company decides to market its product in a larger or smaller size . . . Another adds an entirely new product to the line . . . A third improves the appearance of its package by using a different wrapping material . . . A fourth decides to get out a special combination offer of two products in one wrap . . . Another would like to market its goods in an open boat with a transparent wrap to display the goods.

Now, in all these cases it would formerly have been necessary to buy new wrapping machines. But today our modern machines can be easily adapted to new requirements—usually by simple adjustments and the substitution of a few parts.

Such versatility is an important ally of sales. And it protects your investment against that sly enemy, obsolescence. When you modernize, do it with an eye on future needs as well as present savings. *Look for flexibililty.*

Our line comprises over 80 different types of wrapping machines, suited to a wide variety of products. Let our nearest office give you complete information regarding machines for your type of package.

PACKAGE MACHINERY COMPANY • Springfield 7, Massachusetts

30 Church St., New York 7 • 111 W. Washington St., Chicago 2

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PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

Production Forum

By Francis Chilson

Industrial Consultant

Arty from the Antipodes

A short time ago I was visited—if a cyclone can be said to have visited—by an Australian, Arthur Lightfoot, Director of Nicholas Limited, Melbourne. This outfit is probably the largest makers of aspirin in the world, having plants in Australia, New Zealand, England, Cape Town and Paris. "Aspro" is their trademark and you see this name plastered on the side of every London bus. So much for the respectable part of it. Let's get gack to Arty from the Antipodes.

Shortly after I'd met the bloke a friend of mine said to me, "Do you know Australians?" "Do I know Australians!" I hollered. "Well," says I, "I met Hot Foot Arty From The Antipodes. He drank my Scotch. He kissed my wife. He hit me on the head with the empty bottle. He broke down the stove dancing a jig on it at three A.M. And you ask me if I know Australians! Gor blimey! Wot a guy! Wot a night!

Anyway I discovered that Australians sing "Sweet Adeline" in the same cracked tone of voice commonly employed by Americans when they feel the urge to sing this sweet ditty at an unseasonable hour. But to tell Gawd's strewth, Arty acted just like an American. He walked on his hands a few times because, since he'd been up here, the blood rushed to his feet and made them too hot. Down under people walk upside down, so Arty says. As a matter of fact, if there were no solid earth between us, we'd be walking on the soles of those blinkin' Australians' feet.

All kidding aside, Nicholas Limited, as an outfit, is no small potato, not even by American standards. In their London plant the firm has more than 300 employees making aspirin alone—and that's something. In Australia, Nicholas owns a substantial part of Monsanto, Limited. They also have an ethical division of sizable proportions. They make vitamins and a lot of other stuff. A real outfit, believe me. Keep your eye on them. And on Arty. He'll be back some day, damn.

Australians are not foreigners to us nor we to them. As between me and Art it is "E pluribus unum". We'd have been in a hell of a fix on one or two occasions had we not clung to that motto—and to each other. Of course, there are slight differences in language. In Australia, for instance, you do not say, as off-handedly as we do, that a gal has a cute little "fanny." Oh, no. Down under a "fanny" is something else again. Not unpleasant though. Nothing you wouldn't like.

Gravity Flow Agin'

When I was up at Norwich a while back one of the boys took a crack at my insistence on one story operation. He said, "No matter what you say, Frank, you can't beat the gravity flow set-up we have in Building Five." Coming from a Norwich man that was puzzling because Norwich not only suffers from multistorey construction in *one* building, but in a whole mess of them.

So let me tell you about "gravity flow" at Norwich and then judge for yourself whether I am cock-eyed.

The liquid manufacturing department at Norwich is on the fifth floor of Building Five. As a department it is efficient and immaculately clean. Everything flows down to the bottling lines on the second floor "by gravity." So far, so good. Let's make a batch of liquid at Norwich and we'll see how much gravity is involved in handling it.

We won't be unfair. We will not take as an example that famous, complex liquid product PeptoBismol which contains at least thirty per cent of solids; we'll take an all liquid, simple product like rubbing alcohol—alcohol, water and essential oils. No solids here, just a simple solution; the easiest possible handling problem.

At Norwich all alcohol is stored in underground or cellar tanks. Essential oils are stored in and issued by the formula room in a building remotely located from Building Five. The only ingredient actually in the department at all times is water. Turn a valve and meter out what you want.

Before we can begin enjoying the benefits of gravity flow, we have to pump alcohol from the cellar or buried tanks up to the fifth floor through a condenser and a meter. Not much gravity flow here.

The essential oils are weighed out in the formula

Pure Water at a FRACTION Of Distillation Costs

Want to convert raw water into pure water, *meeting your own particular requirements,* at a fraction of the cost of distillation?

The Dorrco D-I System produces specification water, equivalent to distilled water in purity, in amounts of a few gallons a day for laboratory use, or in quantities of millions of gallons daily for large plants. *The Dorrco System delivers the exact degree of softness, purity, or mineral content required for your use.*

The Dorrco unit (as shown in photograph) is complete, compact, self-contained and delivered ready to connect and operate.

SIMPLE OPERATION The Dorrco D-I System employs a silica-free exchange material of high mechanical and chemical stability, designed for long "runs" between regeneration. Operation periods between regeneration may be selected to coincide with availability of operators.

APPLICATIONS The Dorrco D-I System is applicable to all process industries in which water purity is a factor—food processing, pharmaceuticals, rayon manufacture, pulp and paper, dye-making, ceramic ware, and others. It is used to remove simple hardness, to reduce bicarbonate alkalinity, for reduction of total solids, and for the recovery of valuable metals from waste water.

COST Exact costs vary with the mineral concentration of the raw water, ranging from 2¢ to 20¢ per 1000 gallons with the Dorrco D-I System, as compared to 65¢ to $8.00 per 1000 gallons for distilled water.

Dorrco D-I Unit installed at Holland Rantos Company, Inc., New York City

HOW IT WORKS

Complete deionization is usually carried on in two steps. The first stage (cation exchange) passes raw water over a bed of exchange material which removes the calcium, magnesium, sodium and other metallic ions. The chlorides, sulphates, nitrates, etc. are converted to their corresponding acids. The second stage (anion exchange) removes these acids, producing a water equivalent to distilled water.

The cation exchange is regenerated with commercial sulphuric or hydrochloric acid and the anion exchanger is regenerated by an alkali—usually soda ash.

A Dorr Company engineer will gladly give you full details on the Dorrco D-I System. There is no obligation. Telephone or write our nearest office.

7512

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Blueprint Now! FOR POSTWAR'S NEEDS

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room and double checked. They are transported over into Building Five (the main manufacturing building); then they are taken up to the fifth floor in a freight elevator. Then they are taken from the freight elevator over to the mixing mezzanine and lifted on the mezzanine, which is about seven feet high, by means of a small electric elevator. Gravity hasn't helped us much yet.

Now we are on the mezzanine. We've measured our alcohol into the mixing tank and added the essential oils. We've added the requisite quantity of water and possibly some filter aid (which, of course, we first had to lift up on the mezzanine) and now we push the button and mix the batch.

But wait a minute, lads. We're not ready yet to begin running by gravity. We have to filter the batch. So we pump it through a filter. Not much gravity here, eh? And we use a filter with a pump powerful enough to pump the finished product all the way across the department—about 100 feet—into storage tanks, where it remains until we are ready to run it down by GRAVITY at last, to a filling machine on the second floor which has a pump on it anyway, so what the hell?

At Norwich once you get all your ingredients on the fifth floor, you've got actually a one floor operation. You make the stuff and filter or homogenize it at one end of the building and then pump it to the other end into storage tanks.

Mind you, this is no criticism of Norwich methods. I had a hand in modernizing that plant and I am proud of its cleanliness and efficiency. Within the limits imposed by the existing structures with which we had to deal, that plant is more efficient and certainly better equipped than most with which I have had to work.

The Norwich scheme of things is repeated at Sharpe and Dohme. There materials issued by the formula room on the fifth floor are transported to the liquid department on the sixth. Alcohol is stored in basement tanks and drums of glycerin, mineral oil and other ingredients are carried up in elevators to the liquid department on the sixth floor and pumped out into mixing tanks. Then, as usual, the products are mixed, filtered, aged maybe, and then eventually, they trickle down to the filling machines by gravity. Even then there are a lot of products which you must transport in demijohns or small tanks because of small volume, sanitary or corrosive reasons.

At Chattanooga Medicine Company and many others the same conditions prevail. Liquids are pumped all over the lot in order to "flow down by gravity." But we can't help it because of existing buildings.

If you're in a multistory building and are stuck with it, there's nothing for it but to utilize methods and equipment which will give you maximum efficiency the existing structure allows. That's the meaning of modernization, essentially, and I am glad it is so because I have to eat, and there are a lot of plants to modernize.

But it almost makes me weep when I hear of new building programs in our trade involving four and six and even ten story plants! Good God! I suppose I should be glad because some day I'll have to come in and shuffle them around so that they can begin to produce with something like reasonable efficiency.

We've talked a lot about "gravity flow" with respect to liquids. Let's examine "gravity flow" with respect to powders. I don't care what kind of powder: face powder, douche powder, stomach powder, tooth powder.

Generally speaking fine powder will not "flow" at all. Doesn't make any difference whether they are going up or down; powders must be forced to travel. Free flowing, hard granular substances like coffee or sand will flow pretty well at all angles from ninety degree down as low as thirty. But there are many powders which cannot be allowed to rest at all. They will not even flow out of a straight sided hopper. Gravity doesn't help a damn bit. At Clark-Cleveland Laboratories, Binghamton, New York (Fasteeth) a reverse cone hopper was placed above the filling machine, that is, the hopper is larger at the bottom than at the top, and still, in prolonged, humid weather the stuff hangs up. I've seen powders with such a high arching factor that no detention hopper could be interpolated between the mixer and the filling machine at all. So how can gravity help in such instances?

Generally speaking supply hoppers can be used above filling machines and—with the help of a vibrator—a reasonably smooth flow to filling equipment will be secured provided the pitch of such hoppers is kept within 45 to 70 degrees. But, if you have several filling machines to feed from one or two mixers you are licked as far as gravity is concerned. You either have to make the mixing machines portable which isn't so easy if they are big ones, or you have to convey the powder. The same thing is true if you have several mixers and only one or two fillers. So all and all gravity flow helps you damn little when it comes to powders.

What about creams, pastes, ointments and similar semi-solids? Well, unless you can fill hot, gravity flow "ain't." A good example of gravity flow insofar as tooth paste is concerned is the manufacture of Ipana at Bristol Myers. It is true the tooth paste is made upstairs over the filling equipment. It is true that it flows down to the filling equipment—with a constant pressure pump helping it. So here's an example of bringing stuff upstairs in order to pump it downstairs. In fairness to my friend, Bill Bristol, I must say that when the layout was made, he was stuck with an existing building and since all equipment wouldn't fit on one floor it was placed on several. But the point I wish to make is, that since the paste has to be pumped to the fillers it can as well be pumped on the level or even upward as easily as downward. When you're dealing with pastes you cannot dump them into hoppers and expect them to flow by gravity to the next operation. They'll all hang up and flop off in gobs instead of flowing. Some heavy pastes won't even "flop."

What about granules—tablet granulations and bath salts? Both will flow a reasonable distance by gravity depending upon their dryness and friability and the

weight of the batches. Because of the danger of creating too many fines, granulations generally are conveyed downward. Small batches always are conveyed usually in receptacles downward or upward as the case may be. In either case gravity counts for nothing. Bromo Seltzer is a case in point. The stuff is made on the top floor and conveyed downward, the belt conveyor being the dryer.

We've talked about liquids, powders, granules, semi-solids and now we'll discuss solids. Tablets, pills, capsules, lipsticks, suppositories. I don't think even the most fanatic gravity flow addict would insist that you could drop lipstick and suppositories by gravity. You couldn't handle dry filled capsules that way; they'd come apart or crush. So would soft gelatin capsules crush and tablets and pills would mark up or chip—and in any case no one makes these in such volume that handling such products in bulk is a problem.

Hasn't it ever occurred to you that if you insist on having gravity flow for any reason or no reason, you can get it as well on a single story as you can in multiple stories? To take an extreme example suppose you have a building 1,000 feet long and you want to connect a supply tank at one end with a filling machine at the other. Suppose further you cannot pump this super-delicate liquid—it must flow by gravity. Then all you need is a pipe trench and a line, and if the bottom of the supply tank is only slightly higher than the intake of the filler, the liquid will flow from the tank to the filler as readily as though the tank were above it. By having an air line connected below the discharge valve of the tank the residual amount in the line can be flown clear. There is nothing you can do in a multiple story building that you cannot do easier in a single story unit. The unrealized fact about multi-story units is that they consist of a series of single floor operations stacked one above the other, providing an opportunity only occasionally for a product to flow or be chuted from one floor to another.

So gravity flow be damned!

Yet even as I write this I am conscious that in so many instances I am spitting against the wind. You will run into, as I have in many instances, a manufacturer who will say, "I never saw a pharmaceutical plant that wasn't at least four stories high. Look at Lilly, look at Parke Davis, look at Upjohn, look at Sharpe and Dohme." Yes, just look at them! That's all you can do. With that type of mentality you can neither argue nor educate. Such a man fails to realize that such old firms were started long, long ago, before operating cost meant anything in the drug trade and before anyone began to think of designing factories to keep operating costs low. As the May issue of Fortune puts it in a discussion of factory design: "Engineers used to build dams and bridges; architects were employed to design houses and public buildings but most anyone around the shop designed the factories." Gadzooks, how true that is!

War Production

Let's all pat ourselves on the back. We've done a hell of a job on war and civilian production. THAT'S the bunk! Just because we have, without counting cost, turned out nationally about twice as much as we had ever produced before should give us no reason to feel that we have reached our full production potential or that we have even been really efficient.

We haven't been efficient. Even though ten million of our best men (from a physical standpoint) are in the armed forces, our waste of man hours has been terrific. Management has hoarded labor as it has hoarded materials and equipment. Planning and scheduling generally have been terrible. Supervision poor in the extreme.

In spite of the increase in national production dollarwise, we have as a nation never been efficient and during the war the downright loafing and incompetence in our war plants has been scandalous. In the last five years I have never been in any plant where I did not see wasted labor, poor management and unused or improperly used equipment.

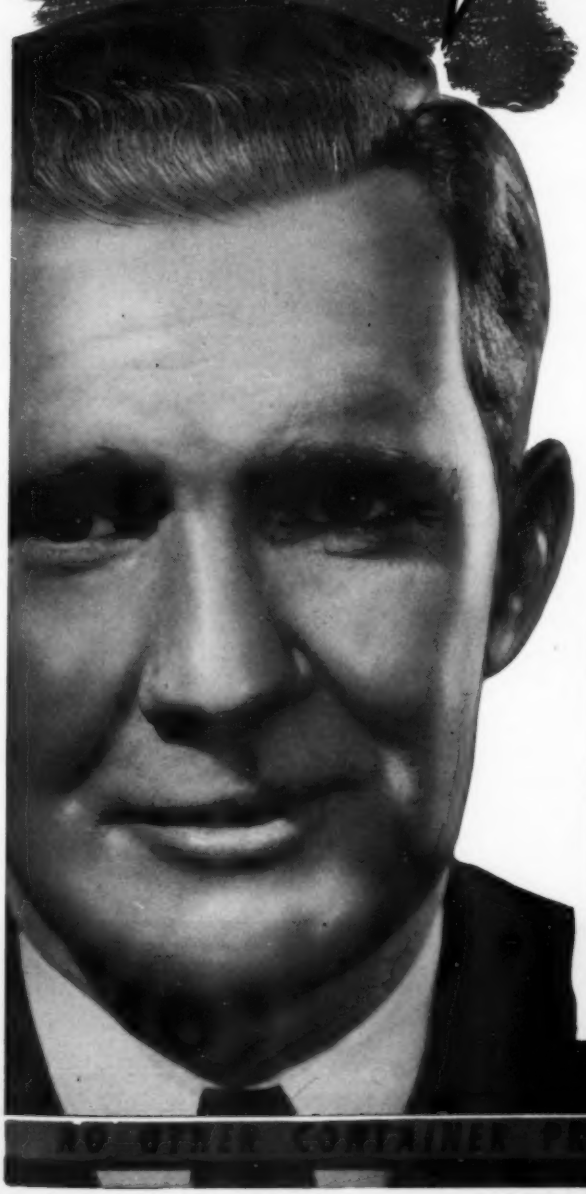
As I have so often said you cannot judge a good job without a criterion against which to measure it. Subtract from the war production total in dollars the increase in material costs, the cost inflation due to cost plus contracts or their equivalent and you cut off a sizable chunk.

Sure it's true we have produced more than other nations and because of our production we have won the war. Perhaps we have produced more than all the world put together, but it still wouldn't mean that we had realized our full production potential or that we had utilized all our labor and plant facilities with even reasonable efficiency. By "reasonable efficiency" I mean a condition wherein all available labor and equipment is used with full effectiveness; where supervision leaves nothing to be desired. In a lifetime I can recall but two plants that I could say were really efficient from a standpoint of building type, equipment, labor utilization, supervision, planning, scheduling, material handling methods and location. Of course, insofar as war production is concerned, nothing can be said about the wrong type of building located in the wrong place but from a national standpoint these factors must be taken into account with the rest.

The fact is, we actually don't know how much we can produce. I'd bet that our potential is twice as great as our maximum war total even without working twenty-four hours a day.

And if we are going to provide sixty million jobs; if in the next few years we are going to absorb eight million men from the armed services plus the normal increase in the population; we had better keep on producing with more and more efficiency. There's only one answer to jobs and that is production. It is not so long ago, when men were working ten hours a day for ten or fifteen cents an hour, that Henry Ford said, "More production, higher wages, lower prices." There's your post war slogan.

HERE'S TROUBLE-FREE PACKAGING FOR DRUGS ... CANS, OF COURSE!



Cans don't break . . .
are moisture-proof . . .
save space . . . help to sell!

• "As a manufacturer of drugstore items, I'm vitally concerned with *trouble-free packaging* for my products. Druggists and housewives feel the same way. And experience has proved that *cans* are *really* trouble-free!

"Cans don't break. They're safe to handle with wet, slippery hands. They're safe to use. Distinctive cans with lithographed labels immediately identify each product... prevent mistakes due to smeared or washed-off labels. And cans shut out bathroom moisture.

"Light in weight and compact, cans are easy and economical to pack, ship, store. And druggists like cans because they save shelf space and make such attractive eye-catching displays.

"So take my tip ... pack your drug and cosmetic products in steel-and-tin *cans* when they're available again!"

WATCH FOR NATIONAL ADS!

More than 31,000,000 printed messages—full-page ads in full color—are appearing this month in 6 big consumer magazines and in Sunday supplements on a nation-wide scale. This powerful ad campaign reminds readers how *cans* help *them*...points out that no other container combines so many advantages.

HERE ARE THE

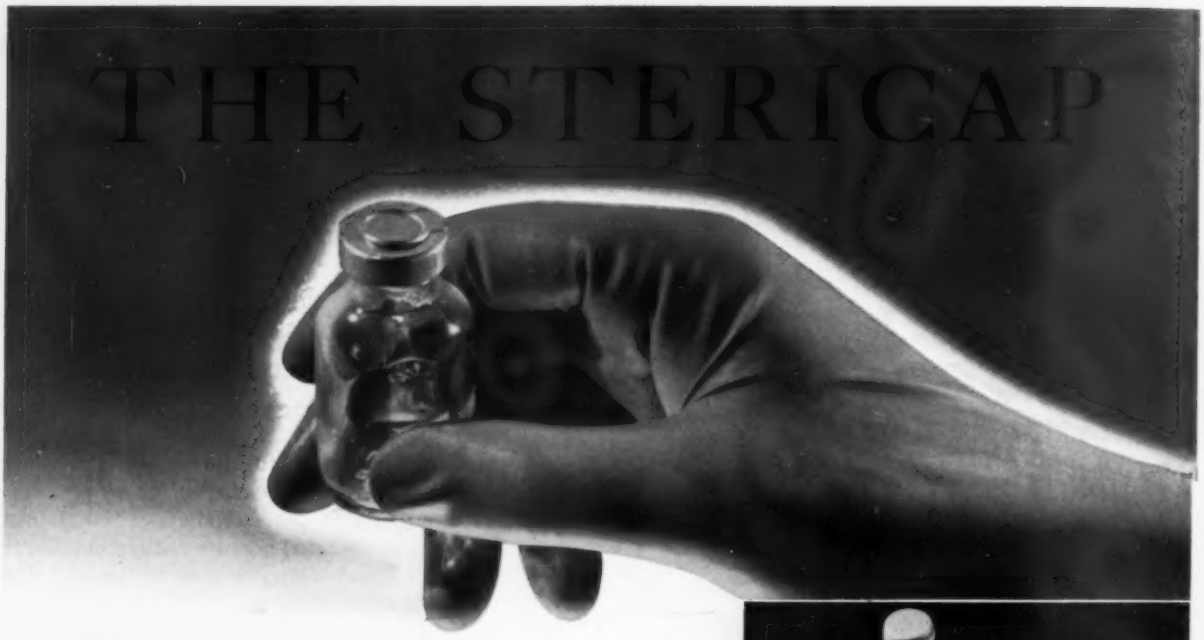
5 MAJOR REASONS

Why Housewives Prefer
Drugstore Items In Cans!

1. Cans are safe when handled with wet hands.
2. Labels lithographed on cans can't drop off.
3. Cans protect contents from bathroom moisture.
4. Cans are so convenient.
5. ...And so economical.

CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK

NO OTHER CONTAINER PROTECTS LIKE THIS CAN



New seal for serums

The Stericap is the newest member of a family of Alseco Seals for serums and solutions for the medical profession. It is a further refinement of a cap that has already proved its merit for sealing such products.

The refinement is this: the Stericap comes to you as an assembled unit consisting of three parts. This unit is placed over the rubber stopper and is locked on the container in a single, swift, automatic operation. Made of aluminum; withstands autoclaving.

Stericaps are effective protection against tampering; guard against contamination or adulteration of contents. They assure a positive hermetic seal on every bottle or vial. Each cap is tailored to fit each individual container, then locked on tightly. Yet they are quickly and easily opened for use.

Is there a place in your line of products for Stericaps? Samples and further details will help you decide. May we send them?

The three aluminum parts come to you assembled as a unit, ready to place over the rubber stopper. Automatic machine locks the cap on the container.

Easily opened by tearing off the outer portion and removing the disc that covers the stopper. Inner portion stays on, holding the stopper tightly in place.

ALSECO STERICAPS

ALUMINUM SEAL COMPANY — 1323 THIRD AVENUE — NEW KENSINGTON, PENNSYLVANIA

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

Climax Electronics

Entry of the Climax Engineering Company of Clinton, Iowa into the electronics field has been announced. All preliminary engineering has been completed and pilot models constructed. Actual production awaits approval of the WPB. The new product will be known as the Climax High Frequency Heater.

The Climax product provides quick, efficient, localized heat for surface hardening, annealing and brazing. It is especially adaptable for the food and pharmaceutical industries with proved applications in such diversified fields as sterilization, pasteurization, deactivation of enzymes, cooking and heating, baking, destroying infestations, packaging and sealing. This method of electronic heating may be applied to all non-metallic materials.

Use of electronic heating results in improved quality of the product through uniform heating, no redistribution of moisture, less handling and speedier production, reduction in labor, packaging and glue costs, reduces inventory and saves floor space. Chemical contamination is avoided completely.

Climax expects to produce 12 models of standard electronic heaters and is establishing an Electronics Division for their manufacture, engineering, distribution and sales. Climax Division of General Finance Corporation was chosen to manufacture the electronic heater because it has a long history of experience in the electrical field, and has produced vast numbers of products for use by the nation's armed forces.

The Climax Engineering Company, established in 1916, are manufacturers of gas, gasoline and Diesel engines and generating sets. They recently announced the development of the TILL-MASTER, a once-over tilling machine, and a new farm water system for deep and shallow well pumps.

International Labor Unit

ILU let's call it, this new scientific labor unit. Just as the BTU is the basic unit of heat measurement, so should it be possible to establish a unit to measure labor with equal accuracy and fairness. There have been all sorts or schemes of job evaluation or merit rating, time study and motion analysis. But all such methods of measuring work and the people who do it leave more to be desired than they accomplish. It's hard to set a fair rate of pay whether by the piece, hour, day, week, month or year unless you have a criterion which is scientifically fair in all instances. Except for a few diehards, organized labor recognizes that a uniform wage is unfair excepting for identical work. What we need, therefore, is a scientific labor unit—and a table of equivalents—which can as accurately be applied as a BTU. Now that I've done my part—I've given you the idea—you figure it out.

The Time Bonus

What does labor want? High wages? Security? An annual wage? Leisure? Some people say that the whole answer to the labor problem lies in high—very high wages. I don't think this is the answer by a long shot. Before going on let me express the belief that the labor problem is not one problem but a series of problems, classifiable by age and sex. Short of a scientific measurement of labor I don't think it is possible to evolve one solution to the labor problem which will satisfy all classes of labor. These classes are:

The youths 18–25 Unmarried: They want leisure, decent wages and to hell with security and the boss also.

The benedicts 25–40 Married: They want high wages, security, leisure, good working conditions.

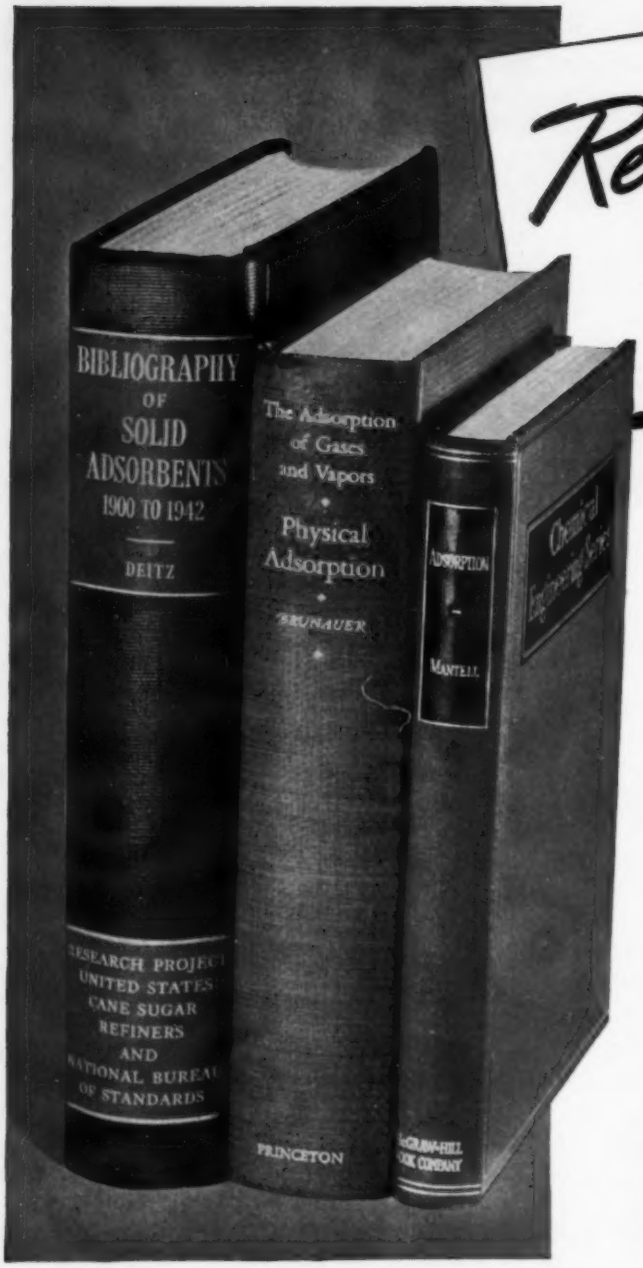
The ancients 40 and up: They want security, leisure.

Women Unmarried: They want leisure, good working conditions.

Women Married: They want leisure, security, good wages.

Without going into all the elements of the labor problem, I'd like to point out that the thing all classes of labor like most of all is time off with pay. For want of a better name I have called this the "time bonus." The Russians have discovered the incentive value of a special vacation with pay and in our own country, Jack and Heinz showed that a Florida vacation with pay had a helluvan influence in increasing production.

As a matter of labor policy, I think we should take the time bonus into account in addition to the annual vacation. Workers whose performance passes a certain standard should be given a bonus of time with pay, which they should be permitted to save up and add to their vacations or use up as earned. The pay off time should be worked out so as not to impair the performance of operating crews. But a time bonus should have a universal appeal. Married women have washing and mending to do and other household chores. Married men have gardens to look after and chores around the house. Boys have hunting and fish-



Recommended Reading

Convincing evidence here that adsorption is rapidly taking its rightful place as a "unit operation" in chemical processes. Lectrodryer strongly recommends these recently published books to men who are interested in the theory of adsorption.

Recommended for *DRY*ing

LECTRODRYERS will handle your DRYing jobs—air, gases and many organic liquids. Charged with Activated Aluminas, they DRY to very low dewpoints. For DRYing help, write Pittsburgh Lectrodryer Corporation, 309 32nd Street, Pittsburgh 30, Pennsylvania.

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ing trips and gals have the beaches and the beauty shops, and long week-ends.

It seems fair that if a worker can reduce the time required to do a job he should be given at least a part of the time consistent with the maintenance of full crews and good organization. But believe me, a day off with pay is better than the pay itself.

Table Laboratory Spray-Dryer

Bowen Research Corporation has developed a new Table Laboratory Spray-Dryer which will fit on a table three feet wide and six feet long. The unit is revolutionary when it is considered that a Spray-Dryer incorporating its features ordinarily was installed in a large specially constructed housing. Of the same general design and construction as the worlds' largest Spray-Drying plants, this unit is not just another piece of laboratory equipment, but a carefully engineered reduction of the large commercial equipment designed and patented by the Bowen Research Corporation.

The Laboratory Spray-Dryer is particularly useful in facilitating the evaluation of the predrying steps in any new materials or processes that are being developed. It will reduce the time of experimentation and allow tests to be made at a minimum of expense. Nearly all aqueous solutions and slurries can be dried on the Table Laboratory Spray-Dryer. As the drying requires only a few seconds, a quart or two of solution can be changed to dry powder form ready for examination in but a few minutes.

The unit is simple to operate and designed for easy laboratory cleaning. From one position the operator can observe and control the rate of feed, air inlet temperature, drying operation, air outlet temperature, condition of drying product and quantity of finished product.

In Spray-Drying, only water is removed—the product retains its color, aroma, flavor and inherent chemical and physical properties. Literature is available for more detailed information. Bowen Research Corporation, Garwood, New Jersey.

Automatic Molding Machine

Improvements, based on more than 7 years' experience, are now incorporated in the latest No. 200 D model Stokes Completely Automatic Molding Machine. Important among these is a new type trap or checking device, sensitive to the fraction of a gram, which weighs the finished moldings and operates a safety cut-off to stop the machine in case all molded pieces do not eject into and pass through the trap. Should a piece stick in the mold or should a molding be of insufficient weight, the machine will stop and signal for attention. Thus possible damage to the mold or machine from double filling or other failure in operation is practically eliminated and high quality of moldings is maintained.

Other features include an improved combination push-off that ejects mechanically in case the multiple air-jets do not blow the molding into the trap; also, an improved triple-feed device that is readily adjusted to distribute exact quantities of molding powder where desired in the mold.

Capacity of this machine is 15 tons; it molds parts with a projected area up to 14 sq. in. and diameters up to 4". Output with a single cavity mold is up to 10 thousand or more moldings per week (168 hours) and with sub-cavity molds up to 10 thousand or more per day, depending on the size of the part.

The machine is self-contained, fully automatic, thoroughly safeguarded, requires a bare minimum of operating attention, is electrically heated and powered, requires 5 H.P. only. For new bulletin No. 458 and more details write F. J. Stokes Machine Co., Philadelphia 20, Pa.

Ionization Gauge

The "Precision-Televac" ultra vacuum gauge, known as type E-31, is the result of years of research to eliminate deficiencies usually associated with this type gauge.

Electrical leakage is completely eliminated and, when used with a moderately high speed pumping system, this ionization gauge actually outgasses itself. Filament is protected before and during operation automatically in that, current will not enter filament before pressure of 1 micron has been established and turns off automatically if pressure rises above 1 micron.

Gauges are interchangeable without recalibration and guaranteed for 1000 hours. Standard E-31 ionization gauge comes on scale at 0.4 micron (4 M 10^{-4} mm. hg). The ionization gauge is used with the televac type "S" recorder. Write for copy of our new bulletin 450R illustrating and describing the complete line of "precision-televac" high vacuum instruments.

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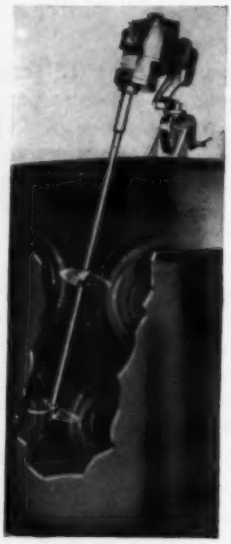

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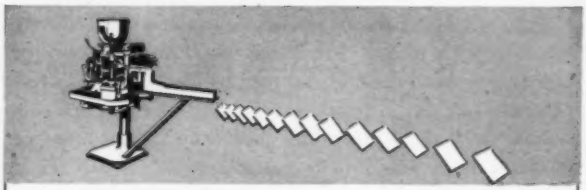

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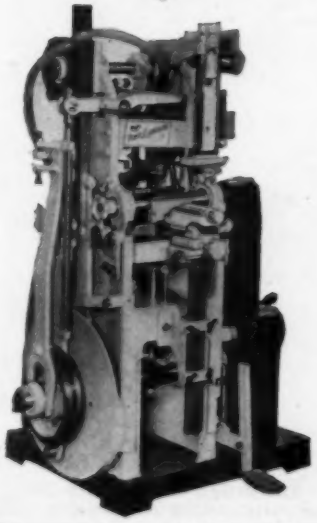

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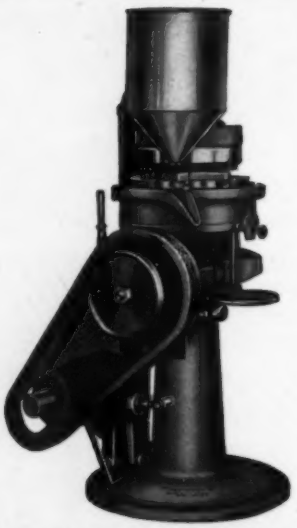

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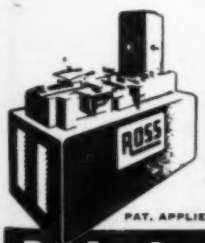

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Pending the end of the war and our embarking fully upon a reconversion program, it is obviously not possible for us to supply all the needs of our customers. We will work with you, however, to the best of our ability to enable you to meet these needs as soon as possible.

Some equipment is now available subject to government priority requirements and the rotation of orders. Other equipment is being planned with greater service efficiency and this will be made available at the earliest possible dates. Patience and a mutual consideration is what is needed to win the war and for all of us to approach and reach a profitable post-war productivity.

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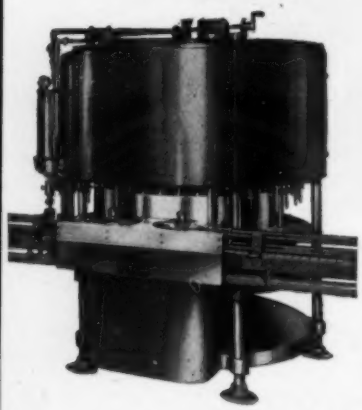
Have you a copy of our Bottling Engineer Handbook? This is full of useful data to help you plan your Bottling and Packaging needs.



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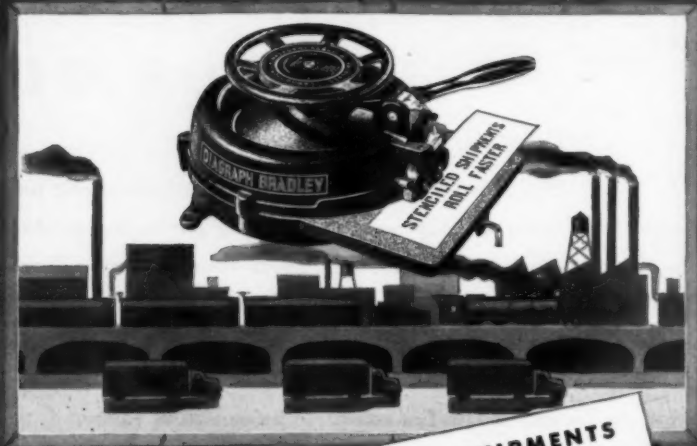

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Stokes Multiple-Effect Water Stills are engineered to meet specific water requirements, are widely used by manufacturers of biologicals and pharmaceuticals, to produce pyrogen-free distillate for use in saline, glucose and other intravenous solutions, restoring desiccated blood plasma and for other purposes.

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Compounder's Corner

Speeding Nail Polish Drying

The slow drying of nail polishes or lacquers is often a source of inconvenience and annoyance. Moreover, because of the retarded drying time and the character of the volatile nail polish ingredients, the final coating frequently lacks the desired lustre and smoothness. To overcome these difficulties, R. C. Hickey has developed and patented (U.S. 2,366,260) a special, but quite simple composition which may be applied over the wet nail polish and substantially increase its drying rate and at the same time eliminates the possibility of a roughened film. Such a liquid drying composition for finger nail polish consists essentially of:

Olive oil	**24 parts**
Castor oil	**1 part**
Denature alcohol (70%)	**2 parts**
Coloring	**to suit**

While not primarily a protective agent, such a composition may at times provide this effect, thereby insuring a longer-lasting coating that will not readily chip or crack. Only a very small amount of the drying agent is needed to produce the desired effects.

Cosmetic Raw Materials from Fruit Wastes

In a discussion of the utilization of fruit wastes, E. H. Weigand (Farm Chemurgic *4:125, 1945) mentions products that are of interest as cosmetic raw materials. Some of them, like pectin, already find important uses in this field, but others are not so well known. Thus, prune pit oil, a reddish oil of pleasant aroma and taste, may be refined for use in the preparation of face creams and pharmaceuticals.*

Cranberry waste is another potential source of interesting materials for the cosmetic and pharmaceutical industry. The skins of the cranberry have a wax-like coating which gives them a glossy appearance and serves as a protection from water and insect pests. This coating is a rather complex substance having a high melting point. From this waxy substance is obtained the wax and ursolic acid. It is estimated that twenty to thirty thousand pounds of ursolic acid are available from the annual national production. Refined ursolic acid is a fluffy white powder with no taste, odor, or acid reaction and is non-toxic. It is insoluble in water, but is soluble in alcohol and benzene. It has a very high melting point. Ursolic acid is an excellent emulsifying agent. It produces a water-in-oil emulsion instead of the usual oil-in-water type. As small a quantity as three parts of ursolic acid to one thousand of ingredients will produce a smooth, firm emulsion. Cosmetic creams and other products have been made using ursolic acid as the emulsifier. Melting points of beeswax and other waxes may be raised by adding ursolic acid.

Cranberry seed oil is a semi-drying oil, containing 200 units of vitamin A per gram. A cream prepared from the oil, ursolic acid, cranberry wax, and distilled water is sold under the trade name of "Vaccinol" for use in skin disorders and burns.

Wool Wax Alcohols in Cosmetics

In a continued discussion of the place of wool wax alcohols in cosmetics, E. S. Lower (*S.P.C.* 18:219, 1945) points out that cholesterol is a natural and normal constituent of hair cells, follicles, and sebaceous glands, and from this its use in hair tonics has come to be regarded as important; being described as having growth-promoting and nourishing properties. Several formulas, illustrating the use of cholesterol in hair tonics, are given, of which the following two are indicative:

	I	II
Liquid petrolatum	4.5	—
Wool wax cholesterol	0.5	0.5
Sodium choleate	0.5	—
Glycerine	5.0	4.0
Borax	0.5	—
Water	89.0	4.5
Alcohol (95%)	—	91.0

Hair conditioners may also benefit from the inclusion of this ester, as in the following combination:

Glyceryl monostearate	12.0
Wool wax cholesterol	1.5
Lanolin	1.5
Lecithin	1.0
Triethanolamine stearate	8.0
Castor oil	3.0
Water	73.0

Cholesterol is also an emulsifying agent of the first rank for the production of water-in-oil emulsions and oil-in-water emulsions. The following formula for a face lotion is a typical example of its use in a cosmetic oil-in-water emulsion:

Wool wax cholesterol	1.3
Stearyl alcohol	2.0
Potassium stearate	3.0
Water	193.7

A beauty milk may be made from:

Wool wax cholesterol	1.3
Cetyl alcohol	0.5
Liquid petrolatum	10.0
Stearic acid	5.0
Triethanolamine	2.5
Water	100.0

Cholesterol may also be used advantageously in hand creams, as is illustrated in the two formulas following:

	I	II
Wool wax cholesterol	1.3	5.0
Soft paraffin	—	10.0
Stearic acid	15.0	—
Liquid petrolatum	—	60.0
Cetyl alcohol	1.7	—
Peanut oil	5.0	—
Caustic potash	0.8	—
Glycerine	16.0	4.0
Water	60.2	80.0
Hard paraffin	—	24.0

Vanishing creams may also employ this ester, as in the example below:

Stearic acid	20.00
Caustic potash	0.75
Water	60.75
Wool wax cholesterol	1.30
Lecithin	0.50
Cetyl alcohol	1.70
Peanut oil	5.00
Glycerine	10.00

Lower points out that one of the

Better Wrappings—thanks to C. P. glycerine. Because it is non-toxic, it is safe to use in making transparent wrappings that come in contact with foods, such as cakes, candies, breads, etc.

Better Foods—thanks to glycerine. C. P. glycerine, a product of nature, is a food itself. That's why it's so beneficial and safe to use in beverages, candies, flavorings, other food products.

Better Paints—thanks to glycerine, an important ingredient in the manufacture of alkyd resins, used for making tough, long-lasting protective coatings. Nothing takes the place of glycerine.

Why Glycerine is a Superior Humectant: LOW VAPOR PRESSURE

MANY materials and products are required to remain soft and pliable—not dry out through loss of moisture. Tobacco, adhesives, and dentifrices are just a few examples of this. Humectants (hygroscopic, water-attracting agents) are used to retain and preserve these qualities, by holding moisture, and also to add their own plasticizing action.

One of the most important properties needed in a humectant is resistance to evaporation—low vapor pressure. That is an outstanding characteristic of glycerine, which, together with its other properties, is the reason why glycerine is such a superior humectant, and why it is used by so many manufacturers.

The following table shows the vapor pressures (in millimeters of mercury) of glycerine and some other humectants at 30°C.

Glycerine	*Humectant "A"*	*Humectant "B"*	*Humectant "C"*
0.0005	0.16	0.009	0.32

This low vapor pressure of glycerine means that it will "stay put." It means that the composition of the material in which glycerine is used will remain substantially the same over long periods of time. It means satisfaction to consumer buyers.

Low vapor pressure, high viscosity, non-toxicity, high solvent power, compatibility, and other valuable properties, plus economy, make glycerine a superior humectant. Use glycerine, which is now freely available for the production of civilian goods. Glycerine Producers' Association, 295 Madison Avenue, New York 17, N. Y., Dept. F-7.

Better Cosmetics—thanks to soothing C. P. glycerine, which helps to keep skin soft and smooth. Think of glycerine, now freely available, when you plan new products. Use it—and be *sure!*

Better Pharmaceuticals—thanks to C. P. glycerine, the tried and tested ingredient, proved through generations of use. Use crystal-clear glycerine in the formulation of your products—and be *sure!*

substances which has been regarded for a considerable time as a constituent of wool wax alcohols is a form of oxydized cholesterol, to which the name of "oxycholesterol" has been given. It has also been considered as the effective emulsifier of these alcohols. The chemical character of this product, which appears to be a form of hydroxy cholesterol, has not been elucidated. A large variety of materials may be incorporated in oxidized cholesterol creams without loss of stability, including tannic acid, heavy metals, salts, glycerine, etc. These emulsions have been found particularly suitable for creams of an acid nature, such as astringent creams and some cleansing and bleaching creams. A basic formula for several cosmetic preparations using oxycholesterol is as follows:

Oxidized cholesterol	**7.0**
Soft paraffin	**693.0**
Water	**300.0**

In the following hand cream, the oxidized sterol would appear to be acting as an emollient and stabilizer rather than as the actual emulsifying agent:

Cetyl alcohol	**0.25**
Avocado oil	**2.50**
Oxycholesterol	**0.30**
Stearic acid	**1.50**
Triethanolamine	**0.50**
Water	**78.00**
Glycerine	**6.00**
Alcohol	**6.00**

In the capacity of a skin penetrant, oxidized cholesterol has very recently been utilized in the preparation of a liquid cosmetic make-up foundation intended to be applied to the skin prior to the application of powder or rouge. Such a composition consists of:

Sesame oil	**64.0**
Zinc oxide	**11.0**
Titanium oxide	**16.0**
Oxidized cholesterol	**2.0**
Glyceryl stearate	**1.0**
Perfume and color	**6.0**
Sodium parahydroxybenzoate	**sufficient**

Poison Ivy Protective

According to a note in the American Professional Pharmacist *(11:62, 1945), it has been found by both the Army and the Navy that their standard gas-protective ointments also protect against poison ivy under experimental conditions; such protection against the noxious weeds lasting about eight hours. Field tests are now under way.*

Hair Pomades

The Information Service Section of the Journal of the American Pharmaceutical Association, *Practical Pharmacy Edition (6:154, 1945) offers the following two formulas for making hair pomades especially designed for negro customers. The first consists of:*

White wax	**300 Gm.**
Heavy liquid petrolatum	**700 Gm.**
Perfume	**as desired**

The second, equally simple, is made from:

Wool fat	**250 Gm.**
Petrolatum	**750 Gm.**
Perfume and color	**as desired**

If these preparations are not sufficiently heavy, it is suggested that a small amount of wax or other stiffening agent be added.

Germicide for Surgical Instruments

A detergent germicidal liquid for surgical instruments, described by A. L. Waugh in U. S. Patent 2,347,012, is made of:

Formaldehyde	**4.0**
Ethyl alcohol	**70.0**
Water	**10.0**
Thymol	**0.063-0.5**
Hexamethylenamine	**0.063-0.5**
Solvent	**15.0**

The solvent is a mixture of methyl alcohol and acetone; the proportions being 1:0.5-2.

Chamomile in Cosmetics

After discussing briefly the status of chamomile, its essential oil and liquid extract of chamomile, J. Rae (*Manuf. Chem. & Manuf. Perfumer* (16:50, 1945) expresses the opinion that, since a large part of the public still has faith in old-time herbs, there is little doubt that a series of well-presented toilet products containing chamomile should command a good sale. Several examples of such products are given, such as the following method for making Chamomile Water:

Chamomile flowers, well bruised	**1 lb.**
Water	**2 gal.**

Allow to stand for twelve hours and distil 1 gallon. Set aside for several days, shaking occasionally, and filter through a wetted filter paper. This water has a strong odor of the flowers and can be used to replace distilled water in lotions, liquid powders, etc. If it is desired to bottle it for sale, 20-25% of alcohol should be added as a preservative and to prevent any separation of the oil due to cold weather.

Chamomile is believed to darken the hair, and a brilliantine can be readily made by this formula:

Official chamomile flowers	**4 oz.**
German chamomile flowers	**2 oz.**
Technical white oil	**1 gal.**

The flowers should be well bruised, macerated with the oil in a closed vessel for twelve hours on a water bath, allowed to cool, and filtered.

Chamomile shampoo powders should contain a percentage of the finely powdered flowers; if considered necessary, a very small amount of the volatile oil can be added. For liquid shampoos the addition of liquid extract of chamomile gives excellent results. If the liquid extract has been carefully prepared 5% should be quite sufficient.

Addition of 5% of the liquid extract to any well-formulated cold cream or any other type of toilet cream, omitting any perfume, opens up a wide field for experiment. Such products, attractively packed, should prove popular.

Hair Reconditioning Creams

In response to an inquiry on hair reconditioning creams, the following preparations were recommended as typical in the Chemist and Druggist *(143:312, 1945). The first cream suggested has the consistency of a pomade and is made as follows; all parts being by weight:*

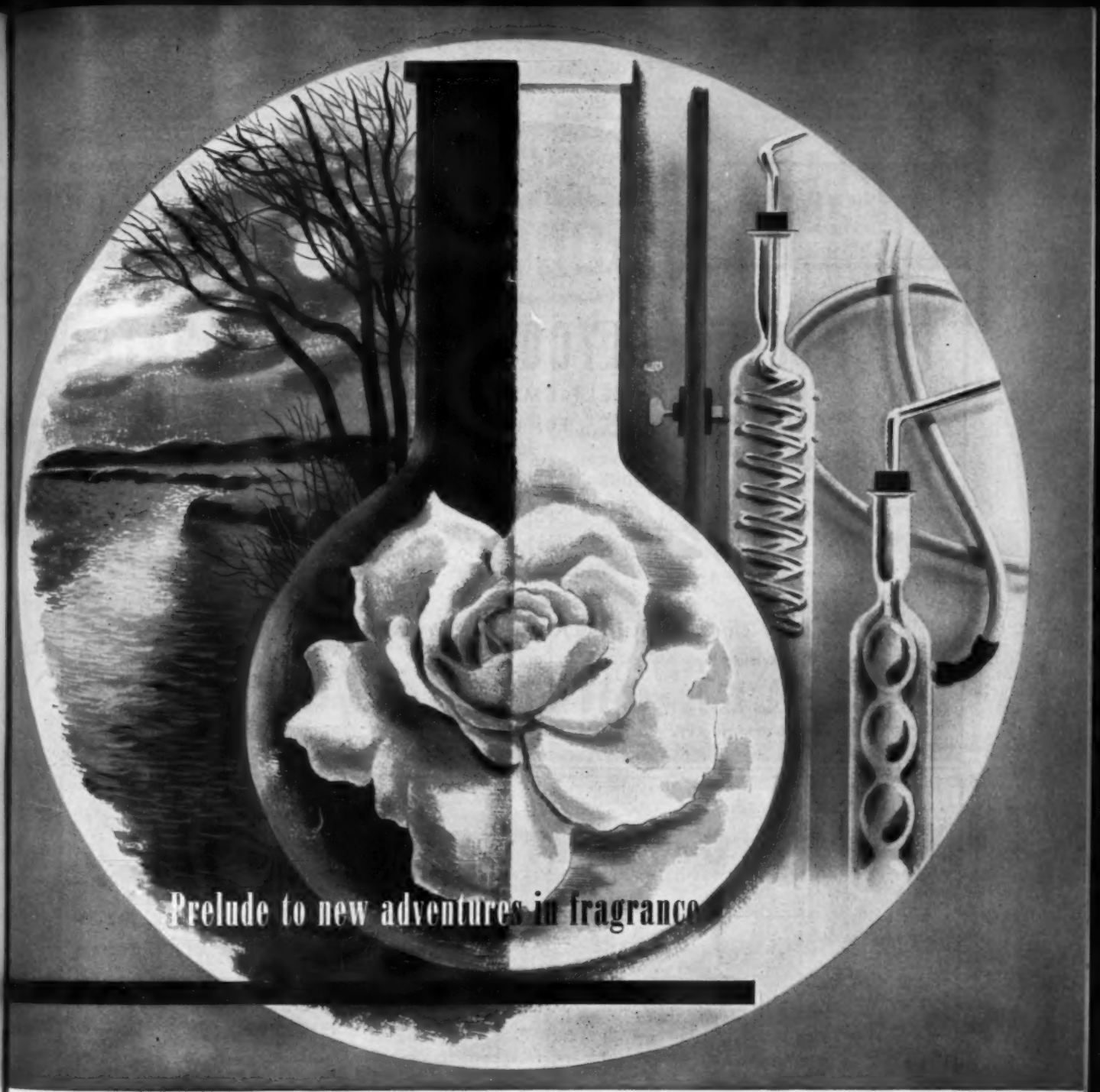
Borax	**4**
Sulfonated oil	**1**
Precipitated sulfur	**4**
Camphor	**½**
Beeswax	**6**
Absorption base	**54**
Distilled water	**30**
Perfume	**q.s.**

The following perfume may be used:

Bay oil	**10**
Pimento oil	**5**
Bergamot oil	**8**
Ti-tree oil	**½**

The second, a semi-liquid cream, is made from:

Borax	**1**
Hartolan wax	**5**
Glyceryl monostearate	**10**
Beeswax	**3**
Liquid paraffin (not B.P.)	**60**
Glycerine	**5**
Distilled water	**30**
Cantharidin	**0.001%**
Rosemary oil	**½**
Eau de Cologne essense	**q.s.**



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Tetmosol Soap vs. Scabies

Scabies, a common skin infection under normal conditions, promises to be of even more importance as a result of post-war conditions in Europe. Having learned of the efficiency of soap impregnated with tetmosol (tetraethylthiuram monosulfide) in combatting the itch mite, W. Bartley, K. Unsworth and R. M. Gordon (*Brit. Med. J.* 1:332, 1945) investigated the value of such soaps in the prevention and treatment of scabies. In this work the incidence of scabies in a closed community of 400 persons was observed over a period of 31 weeks. During the last thirteen weeks of this period a 5 per cent tetmosol soap was substituted for the ordinary toilet soap. During this latter period the incidence of scabies fell from 9.2 per cent to 0.5 per cent and only one new case occurred. No cases of dermatitis resulted from the use of this soap. On the basis of these observations it is concluded that 5 per cent tetmosol soap acts as a prophylactic and curative agent against scabies and that it is an effective means of controlling the disease in an infected community.

Injectable Penicillin Emulsion

It has been found that the intramuscular injection of water-in-oil emulsions of penicillin results in prolongation of penicillin effect as compared with similarly administered aqueous solutions. However, emulsions of penicillin cannot be readily prepared at the bedside or in the clinic. In addition, such emulsions display certain disadvantages with regard to potency and stability. To overcome these difficulties, J. Freund and K. J. Thomson (*Science* 101:468, 1945) have developed a new technic that also insures the sterility of the preparation. Thus, water-in-oil emulsions of penicillin can be made as follows: 1.4 cc. of sterile 0.85 per cent salt solution are drawn into a sterile syringe and injected into a vial containing 100,000 units of dry penicillin. To the penicillin solution 3.1 cc. of an autoclaved mixture containing 11 parts of a lanolin-like substance ("Falba") and 20 parts of peanut oil are added by means of a sterile, 17-gauge needle. With the needle still inserted through the rubber cap of the vial, the mixture can be emulsified readily by repeated withdrawal and ejections. As soon as the mixture assumes a uniformly creamy, slightly viscid consistency, satisfactory emulsification has taken place and it is ready for injection.

It is stated that other water-soluble drugs and biologicals, as well as aqueous suspensions of particulate matter, like bacteria or viruses, can be emulsified by this method.

Sulfathiazole for Vincent's Angina

Because the use of sulfathiazole had been reported to yield very satisfactory results in cases of Vincent's angina and to cut treatment time from ten days to 72 hours, W. M. Manson and I. T. Craig (*J.A.M.A.* 127:277, 1945) decided to try the drug on a group of navy men with the mouth disease. This treatment consists of a 0.5 Gm. sulfathiazole tablet dissolved on the tongue every two hours during the day and two such tablets dissolved in the same manner every four hours at night. The temperature usually returned to normal in twenty-four hours and the symptoms had almost completely disappeared by that time. In spite of the clinical improvement, the treatment was continued for a total of seventy-two hours, except in very mild cases, when it was terminated at the end of forty-eight hours. No case was treated with sulfathiazole over seventy-two hours, the total dosage in these cases being 18 Gm. The milder cases received forty-eight hours of treatment for a total of 12 Gm. of sulfathiazole. Results were uniformly good in the two groups. Average sick days were 3.75 for this group, which is much shorter than that obtained with the older methods employed at this activity. These older methods included the use of neoarsphenamine locally as well as intravenously.

There were no cases of sulfa sensitivity in this series, and the results have been so satisfactory that Manson and Craig have adopted this method as the routine treatment for the condition.

Burn Spray

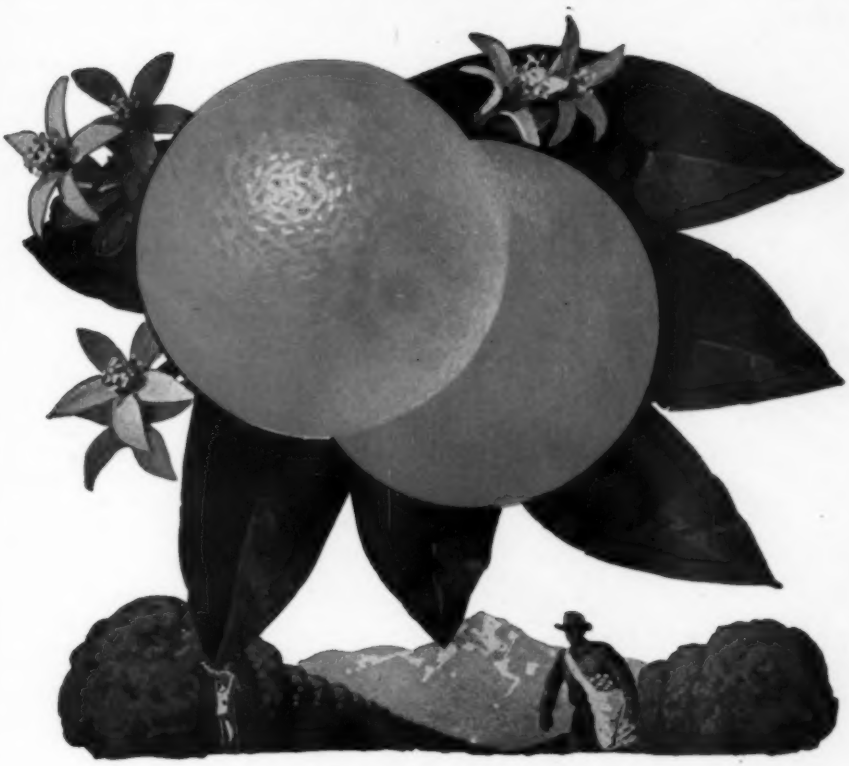
Stressing the value of a spray film for coating and protecting burned and otherwise denuded areas of the body, Rogers, and his associates present the following formula for a suitable spray in the *United States Naval Medical Bulletin* (42:1125, 1944).

Paraffin	**265 Gm.**
White wax (beeswax)	**215 Gm.**
Sulfonated liquid petrolatum	**330 Gm.**
Sodium lauryl sulfate	**10 Gm.**
Water	**30 Gm.**
Sulfonamide (of choice)	**50 Gm.**
Triethanolamine	**100 Gm.**

Quinine in Respiratory Infections

The discovery of newer, "miracle" drugs, notes H. M. Feinblatt in the *New York State Journal of Medicine* (45:509, 1945) is apt to obscure the value of more established therapeutic substances. Quinine, for example, in addition to its invaluable role in the treatment of malaria, has had a long history of usefulness in the therapy of upper respiratory infections such as the common cold and influenza and appears to be of value in the newer entity called virus pneumonia. This usefulness in respiratory infections, he observes, seems to have been overlooked by younger physicians.

From the vantage of thirty years' experience, Feinblatt finds that quinine has proved to be a valuable therapeutic agent in the treatment of the common cold, influenza, and virus pneumonia. It acts as an antipyretic and analgesic, reduces the duration of the illness, prevents complications, and, if given early enough, may abort the infection. No untoward effects with quinine have been seen in dosage of from 6 to 10 grains daily. Of course, the present restrictions on quinine will probably limit such usage until after the war.



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Poisonous snakes, toads, spiders, centipedes, and other insects are among the many hazards faced by rubber gatherers in the forests of the Amazon, by farmers, and by workers in newly developed industrial areas. However, it is pointed out in *Foreign Commerce Weekly* for March 24, 1945, the lives of thousands of tropical workers in essential war needs are being safeguarded by snake-bite serums and other vaccines produced on Brazil's famous "Snake Farm"—the Butantan Institute, near the city of Sao Paulo. Experts extract the venom from the poison glands at the root of the snake's fangs; as much as 2 cc. of venom being obtained from a large rattler. The resulting serums are widely distributed throughout Brazil in sections where they are most needed, and, as a result, the mortality resulting from treated cases of snake bite has been reduced from 20 or 22 per cent to from 2 to 5 per cent.

New Remedy for Leprosy

According to an item in the *Journal of the American Medical Association* (127:1070, 1945), a report has been received from Madagascar giving a preliminary account of the discovery of a new remedy which has given remarkable results in the treatment of advanced lepromatous cases of leprosy. In 1937 two French physicians, Boiteau and Grimes, extracted a new glucoside from an umbelliferous plant growing in Madagascar called *Hydrocotyle asiatica*, which in doses near a toxic level gave encouraging results in leprosy. In 1938 Bontemps discovered a new glucoside, which he called asiaticocide and which was much less toxic. By further research Boiteau obtained a solution suitable for injection, which, he holds, acts as a solvent of the waxy coating of the bacillus of leprosy, which then becomes fragile and can be easily destroyed by the tissues or by an adjuvant drug. The results now reported from the new glucoside include softening and breaking down of nodules, followed by cicatrization. Healing of whitlows and perforating ulcers and gradual improvement of anesthesia and muscular atrophy are also claimed. Still more remarkable is the claim that eye lesions are rapidly cured if treated before the posterior chamber is involved.

Status of Vitamins and Gray Hair

An editorial in the *New England Journal of Medicine* (232:204, 1945) points out that in the field of vitamins there has sometimes been a tendency in this country for clinical exploitation of the results of laboratory investigations before those findings have been adequately substantiated, and long before their full import and applicability have been ascertained. This has been particularly true in the treatment of conditions in which the evaluation of the results is partly or wholly subjective. One recent outstanding example has been the widely publicized use first of para-aminobenzoic acid and then of pantothenic acid, either alone or in combination with para-aminobenzoic acid, for the restoration of the original dark color of graying hair in man.

After briefly reviewing the pertinent work in this field, the editorial calls attention to the recent study of H. Brandaleone, E. Main and J. M. Steel (*Am. J. Med. Sci.* 208:315, 1944). Because of the interest aroused by the reports of the effect of calcium pentothenate and para-aminobenzoic acid on the color of gray hair in human beings, these workers conducted a series of studies designed to clarify the confusion concerning which of these compounds is the more important. Each substance was fed alone and in various combinations with yeast. They found no significant decrease in the gray color of the hair from the use of these substances over a period of six to eight months.

Blood Cells in Corn Syrup

In the past few years there has been a growing use of suspensions of red blood cells for transfusion of selected patients. With the preparation of plasma in many hospital blood banks and the extensive American Red Cross blood procurement program for the armed forces, huge amounts of centrifuged cells remain after the plasma has been withdrawn from the whole citrated blood. Until the comparatively recent and more extensive use of some of these cells for transfusion of patients suffering mainly from anemia, most of these cells have been discarded. It is now recognized that the transfusion of red blood cells can serve as well as whole blood for many patients. The main problem has been to find a solution for resuspension which will preserve the cells for a long enough time to make their use practical. Isotonic solution of sodium chloride has been used extensively but is far from ideal, in that it is necessary to administer the saline-suspended cells not later than five days after the blood is obtained from the donor. Since it was evident that a better solution was needed, a search for one was undertaken by W. Thalhimer and E. S. Taylor (*J.A.M.A.* 127:1096, 1945). A 10 per cent solution of corn syrup in distilled water has been found to be an excellent medium for resuspending centrifuged cells. Cells stored in it remain in good physical condition longer than in isotonic solution of sodium chloride and other solutions which were tried. They remain less fragile to hypotonic saline solution and much less hemoglobin is found in the supernatant fluid. These resuspended cells have been used for transfusion after storage at 5° C. for as long as twenty-one days, but for routine use an expiration interval of fourteen days has been established.

At the time of the report, 761 transfusions of cells resuspended in 10 per cent corn syrup have been administered with satisfactory results to 437 patients. None of these transfusions have caused jaundice or other deleterious effects.

Penicillin for Ocular Infections

After discussing its concentration in the ocular tissues and fluids after the administration of a large intravenous dose of penicillin, J. G. Bellows (*Am. J. Ophthalmol.* 27:1206, 1944) reports that the local application of penicillin leads to a high concentration of the drug in the tissues of the anterior segment of the globe. The following ointments in which the penetrability of penicillin was tested are listed in the order in which they are clinically recommended: simple ointment, oil-in-water emulsion and lubricating jelly. The "vanishing" stearate type of a base, in which penicillin seems to have the greatest power of corneal penetration, is not recommended because of its possible damage to the corneal epithelium. It may be used on the skin of the lids. For deep infections of the eye and retrobulbar tissues the parenteral route, although leaving much to be desired, is the only one available. In observations of 46 clinical cases, he found that penicillin is effective in the treatment of acute and chronic infections of the lids, conjunitiva and cornea produced by penicillin-sensitive organisms.

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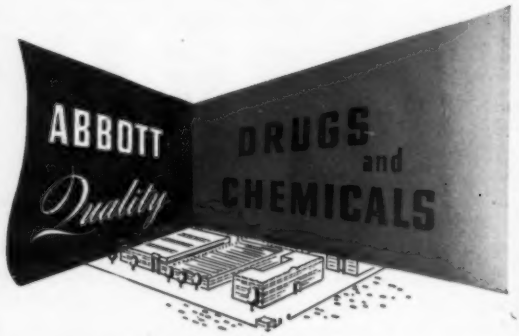

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Industry's Books

The Chemist And Druggist Year Book, 1945, 530 pp., Chemist and Druggist, London.

The new edition of this valuable reference book is well up to the standard set by pre-war numbers. In addition to the brand names and raw material directory, this work contains much valuable information indispensable to anyone who wants to be informed on conditions in the pharmaceutical, toilet preparation and allied industries in Great Britain. Of especial interest to the industry here is the advertising catalog pages of British packaged goods as well as the announcements of raw material supply houses.

Trauma In Internal Diseases, With Consideration of Experimental Pathology And Medicolegal Aspects, by Rudolf A. Stern, M.D., Assistant Attending Physician, City Hospital, New York, 575 pp., Grune & Stratton, New York, $6.75.

This volume offers in its discussion a body of clinical material covering the entire range of human internal disease conditions in relation to traumatic etiology, with special attention to lesions referable to nonpenetrating trauma where proof is difficult or controversial. This is paralleled with analysis of the medicolegal considerations that evolve in the operation of workmen's compensation laws, in veteral dispositions, and in physical rehabilitation and occupational adjustment. Illustrative case histories and a large number of legal decisions in compensation actions are cited. The survey embraces also the advances achieved from the angle of experimental pathology in this field, and presents a balanced selection from the voluminous and widely diffused literature that in itself amounts to an impressive and invaluable orientation and reference tool.

Penicillin Therapy, Including Tyrothricin And Other Antibiotic Therapy, by John A. Kolmer, M.S., M.D., Professor Of Medicine In The School Of Medicine And The School of Dentistry, Temple University, 302 pp. D. Appleton-Century Co., New York, $5.

Four years have now elapsed since Florey and his colleagues first succeeded in isolating penicillin in relatively pure form and discovered its remarkable effects in the treatment of various experimental bacterial infections of mice. A very large literature has already accumulated on the methods of production, properties, standardization, methods of administration, dosage and therapeutic effectiveness of penicillin in the prevention and treatment of numerous diseases due to various pathogenic bacteria and spirochetes, although its full possibilities have not yet been explored nor the ultimate fruits of its discovery foreseen. Under the circumstances, this monograph was prepared as an aid to both the medical and dental professions. The properties, methods of administration and possible therapeutic applications of tyrothricin and certain other chemotherapeutic polypeptids have also been included. An attempt has been made in the work to review and concisely summarize the important literature on the subject.

The Story Of Penicillin, by Boris Sokoloff, M.D., 167 pp., Ziff-Davis Publishing Co., Chicago, $2.

Never in the history of medical science had there been such enthusiasm in medical circles as was brought about by the discovery of penicillin. In the last year or so many an isolated fact on penicillin has found its way into newspapers and magazines. But as yet no attempt has been made to present to the public a more or less complete picture of this dramatic discovery. This is not a "guide" to penicillin therapy or a discussion in great detail of the chemistry of this drug. Its purpose is to give a general outline of the outstanding facts in the exciting story of this great scientific discovery.

The Amino Acid Composition Of Proteins And Foods, Analytical Methods And Results, by Richard J. Block, Ph.D., Associate in the Department of Physiology and Biochemistry, New York Medical College, and Diana Bolling, B.S., 396 pp., Charles C. Thomas, Springfield, $6.50.

This is a broad survey of the available world literature from which has been carefully selected those reliable analytical methods and results—the tested, modern procedures of foremost investigators—most useful in determining the amino acid composition of nutritionally valuable food proteins. To facilitate comparison of methods, nearly all the analytical procedures employed are presented in detail. Data, heretofore widely scattered, now becomes more easily accessible and quickly available. Contents: Chapters I: The Diamino Acids, Arginine, Histidine, Lysine, Hydroxylysine, and Citrulline. II: The Aromatic Amino Acids. Tyrosine, Tryptophane, Phenylalanine, Diiodotyrosine, and Thyroxine. III: The Sulfur Containing Amino Acids. Cystine, Cysteine, and Methionine. IV: The B-Hydroxy Amino Acids. Serine and Threonine. V: The "Leucines." Leucine, Isoleucine, and Valine. VI: The Dicarboxylic Amino Acids. Aspartic Acid and Glutamic Acid. VII: Glycine and Alanine. VIII: Proline and Hydroxyproline. IX: General Methods for Amino Acids. X: Summary Tables. XI: The Essential Amino Acid Requirements of Man. Bibliography—Author Index—Subject Index.

The Chemistry of the Amino Acids and Proteins (with Addendum, Pages 1033–1290 Inclusive of Some of the Advances Since 1937), Edited by Carl L. A. Schmidt, M.S., Ph.D., Professor of Biochemistry and Dean of The College of Pharmacy, Second Ed., 1290 pp., Charles G. Thomas, Springfield, $10.

This enlarged Second Edition presents a full review of physical, chemical, and biological properties of the amino acids and proteins. The work is divided into two parts: 1. The first part, pages 1–1031 inclusive, is an exact reprinting of the original 1938 volume, in which the subject is covered to 1937, with a two page list of corrections, and its own Contents and Index. XXVI, 1031 pages, 144 tables, 259 figures, 2957 references. Part II. Following this material appears an up-to-date Addendum, pages 1033–1290 inclusive, of all new materials which presents advances from 1937 and extends these into 1942. Its Chapter contents are geared to the 1938 volume, and it contains a separate index. XII, 258 pages, 32 tables, 41 figures, 880 references. The present treatise, therefore, represents a cooperative effort on the part of a group of individuals whose scientific interest lie, in large part, in the field of the amino acids and proteins, to collect all the available information on the subject and present it to the reader in an integrated form. The Addendum is also available as a separate volume at $5.

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Skunk Scent

In connection with attempts to discover new natural musks and in view of reference in the literature to skunk scent and perfumes, an investigation of skunk scent was undertaken by P. S. Stevens (*J. Am. Chem. Soc.* 67:407, 1945) to learn whether any large ring compounds were present. Fresh scent (from *Mephitis mephitis nigra*) was treated with alcoholic mercuric chloride to remove mercaptans, and supposedly sulfides also, and the unchanged material was separated into two volatile and a non-volatile fraction. The latter material containing any large ring compounds present, was saponified, and the neutral material was fractionated, yielding a small amount of oil which, though having a not unpleasant, somewhat floral odor, and boiling as would a large ring alcohol or ketone, had a composition corresponding approximately to $C_{11}H_{20}S_2$, and gave, on oxidation, products with no musk odor. The scent therefore contains no large ring compounds of the musk or civet type; any fixative value, if any, must depend on other compounds.

The volatile oils were repulsive in odor. The main, more volatile fraction, A, had the composition $C_8H_{14}S$, was insoluble in dilute potassium hydroxide, added bromine avidly, gave a precipitate with aqueous mercuric chloride, and was therefore an unsaturated sulfide. On treatment with methyl iodide at room temperature, A yielded trimethylsulfonium iodide, indicating that both alkyl groups of the unsaturated sulfide had been replaced, that both groups were of the allyl type, and that A was possibly dicrotyl sulfide. Comparison of the sulfide and its mercuric chloride addition product with corresponding authentic specimens established the structure as dicrotyl sulfide.

Perfumer's Shelf

Synthetic Menthol Patent

As is pointed out in U. S. Patent 2,366,749 issued to A. Ofner and E. C. Kunz, there is a great demand for menthol having the odor and taste attributes of the natural product. Many users of menthol have not adopted the synthetic product simply because it does not possess these taste and odor characteristics, although otherwise it is satisfactory. Recognition of this condition has resulted in suggestions for improvement in these properties. Thus it is reported that synthetic *l*-menthol may be given a natural menthol odor by spraying it with approximately 0.03 per cent of its weight of mint oil. This procedure, however, has several disadvantages.

According to their patent claims, Ofner and Kunz have found a simple way of obtaining crystalline synthetic menthol having the characteristic odor and taste of the natural product. This is achieved by crystallizing synthetic menthol from a solvent comprising distilled American peppermint terpenes, Japanese or Chinese dementholized peppermint oils. An example of the procedure used, as given in the patent, is as follows: 200 grams of crystalline synthetic *l*-menthol, obtained by known means from *d*-citronellal, were dissolved in an equal weight of distilled American peppermint terpenes. The menthol was re-crystallized from the solvent by cooling the chamber in which the mixture was contained with brine maintained at –5° C. to 0° C. The re-crystallized *l*-methol was centrifuged and placed in a chamber kept under a vacuum of 100 millimeters of mercury and at a temperature of 30° C. for three days. 100 grams of *l*-menthol were obtained.

The foregoing experiment was repeated except that the terpenes mother liquor obtained from the foregoing re-crystallization was employed as the re-crystallization solvent. A yield of approximately 200 grams of crystalline *l*-menthol was obtained.

Western Australian Eucalyptus Oil

In one of a series of studies of the essential oils of Western Australian eucalypts, E. M. Watson (*J. Roy. Soc. W. Australia* 28:247, 1941–1942, publ. 1944) gives details on the oil obtained from *Eucalyptus erythromema* Turcz. This is a small tree, twelve to eighteen feet high, with its bark covered with a fine, white talc-like powder which easily rubs off. Steam distillation of the air-dried terminal branches produces 2.5 to 2.6 per cent by weight of an oil containing 70 per cent cineole. The rectified oil, boiling at from 164 to 185° C., contains 80 per cent of cineole and has the following properties at 20° C.:

Specific gravity	**0.918**
Index of refraction	**1.461**
Specific rotation	**2.76°**

The oil is soluble in two volumes of 70 per cent alcohol. The oil gives no phellandrene reaction. Watson feels that commercial exploitation of this eucalypt should still be possible and cultivation should be economical because of the good yield of high grade oil.

Siberian Pine Needle Oils

In a discussion on pine needle oils in *Khimiya i Industriya* (through *Chem. Abstr.* 39:1734, 1945), G. Karaivanov reports that oil from Siberian *Pinus sylvestris* contained bornyl acetate 30 per cent, camphene 20 per cent, pinene 15 per cent and monocyclic terpenes 35 per cent. Oil from *Pinus halepensis* mill, from the Krim district, contained pinene 10 per cent, camphene 6 per cent and tertiary alcohols (calculated as borneol) 15 per cent. This oil had a high bornyl acetate content.

Food Flavor Volatility

From the standpoint of formulation and fixation, says E. C. Crocker (*Ind. & Eng. Chem.* 37:214, 1945), volatility is worthy of study as an important physicochemical characteristic of flavor. Volatile components are essential to the character and acceptability of many food flavors. These components are ordinary organic chemicals in most respects, distinctive only in so far as they stimulate appropriately the receptors of the sense of smell and, occasionally, those of taste.

Volatile flavoring ingredients may be present in concentrated condition, as are the sizable droplets of oil in skin cells of such fruits as oranges and lemons, in minute quantities beneath the skin of apples or strawberries, or

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distributed throughout the pulp, as in bananas. The volatile substances in cooked foods tend to be uniformly distributed but may also exist in concentrated particles, particularly when spices are used.

Flavoring substances are of various chemical types; hydrocarbons, alcohols, ethers, aldehydes, ketones, acids, lactones, anhydrides, esters, phenols, amines, sulfides, and mercaptans; saturated and unsaturated; aliphatic and aromatic. Some flavors are chemically stable whereas others have but short life, being susceptible to rapid loss on condensation or oxidation.

In Crocker's discussion attention is given to the various characteristics of the volatile ingredients, and to the environment of the food, which influence volatilization. Among these characteristics, for each volatile substance, are vapor pressure at the temperature of evaporation, chemical properties, distribution in the food, and the pH and chemical nature of the whole. Evaporation of the volatile aroma coincidenwith that of moisture from the food is considered to be the most important cause for its volatilization.

Perfume and Flavor Synthetics

Writing in the March 1945 issue of *Domestic Commerce*, J. N. Taylor points out that during the past quarter century the manufacture of synthetic aromatic chemicals in the United States has grown remarkably and, in that time, the country has become independent of foreign sources of supply. Synthetic aromatics manufactured today are tried and true products. Their increased use by perfumers and by the food industries has been a gradual development. These synthetic aromatics have found wide use, not only in perfume and flavor manufacture, but also as industrial deodorants and as odor-masking ingredients.

Classification of such materials has been simplified, since scientific names of chemical compounds are indicative of their architecture or molecular structure as visualized by chemists. Structure has a definite relationship to properties such as odor, taste, and other distinguishing characteristics. It is only logical that these structural relationships should conform to definite patterns and that certain resemblances should indicate family groups.

Synthetic flavor and perfume materials may be broadly grouped as cyclic and acyclic compounds. The cyclic products consist of benzenoid compounds (derivatives of benzene and its homologs) and heterocyclic compounds. Terpenoid derivatives are found in both cyclic and acyclic groups. These broad categories may be further subdivided into classes of alcohols, aldehydes, ketones, esters, ethers, acids, and lactones. Esters, offspring of the reaction between alcohols and acids, are the principal odor bearers of fruits and flowers.

Indicative of such arrangements is the following classification used by the Department of Commerce in compiling statistics on aromatic synthetics:

Benzenoid:—Amyl cinnamic aldehyde, Amyl salicylate, Anisic aldehyde. Benzyl acetate, Benzyl alcohol, Benzyl benzoate, Benzyl salicylate, Cinnamic alcohol, Ethyl benzoate, Methyl anthranilate, Methyl salicylate, Musk xylol, Phenyl-ethyl alcohol, Vanillin.

Terpenoid:—Citral, Citronellol, Geraniol, Geranyl acetate, Ionone, Linalyl acetate, Methyl ionone, Rhodinol, Terpineol, Terpinyl acetate.

Heterocyclic:—Coumarin, Heliotropin.

Acylic:—Ethyl butyrate, Ethyl oenanthate.

According to Taylor, the present conflict has stimulated a greater interest in synthetic aromatics, and scientific and technological advances made during the war regarding the manufacture, as well as the proved worth of these products, in new and unique formulations, will undoubtedly bring about an even broader consumer demand for them and a correspondingly larger consumption in the post-war years.

Commercial Racemic Menthol

Loss of sources of supply of natural *l*-menthol has led to official recognition of racemic (*dl*) menthol. In discussing some physical and chemical properties of commercial racemic menthol, K. L. Watson and G. D. Beal (*J. Am. Pharm. Assoc.*, Scient. Ed. 34:52, 1945) observe that generally, the melting point is one of the first criterions considered when it is desired to check the identity and purity of an organic compound. Unfortunately the melting point of racemic menthol is not too well defined. Most of the samples melted slowly over a range of one and a half degrees. A possible explanation might be that the commercial samples were impure; however, a melting range from 28° to 38° C., depending upon the conditions of the experiment, has been recorded, and attributed to the fact that there are two crystalline modifications of racemic menthol, melting at 28° and 38° C., respectively. Most literature references give the melting point of racemic menthol as 34.0° C. The British Pharmacopoeia has set the limits for acceptable racemic menthol as 32.5° to 34.0° C. The German Pharmacopoeia gives limits from 32° to 36° C. In view of the adoption of these limits by official compendia it might reasonably be expected that the melting point would be close to 34° C. when determined by the usual methods. By following the United States Pharmacopoeia procedure for the determination of the melting po'nts of Class I compounds, the authors have been able to obtain consistent results. Unfortunately, when other individuals were asked to check the melting points of some of the samples of racemic menthol, there was a variation in results. On the basis of these and other observations, Waters and Beal concluded that the melting point of racemic menthol is not an ideal criterion of the purity of the product.

Nonetheless, even though the two crystalline modifications of racemic menthol may lead to an ill-defined melting point, they produce a phenomenon which is very characteristic and serves excellently as a test for both identity and purity. When racemic menthol is melted and cooled a definite setting point is observed at 27–28° C.; after stirring for several minutes the temperature is seen to rise sharply to about 31° C. These points are very sharp and characteristic. Examination of samples of racemic menthol containing small amounts of other isomers indicates this is a rather accurate criterion of purity. Other workers have endorsed this phenomenon as a method of distinguishing isomer-free racemic menthol from other menthols. Both the British and the German Pharmacopoeias have included the setting or congealing point as a characteristic test. Hence, according to Waters and Beal, the congealing point may be considered an excellent criterion of the purity of racemic menthol.

Of interest is their observations with regard to the frequent allegation that racemic menthol develops an "off" odor on storage. They have found that a sample of racemic menthol, kept on hand for two years, still possesses a pleasant odor and meets all the official requirements. One sample, subjected to the drastic storage conditions of being alternately melted and crystallized for a period of six months, showed no changes in chemical or physical properties.

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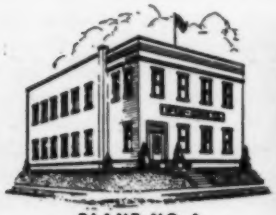

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PURCHASING DEPARTMENT

More Penicillin For Civilians At Lower Price; Glycerin Returned To Pre-War Status.

One of the highlights in the market under review was a further reduction in the price of penicillin. The inside price of 95c per vial which had prevailed on orders for Federal or State institutions now applies to all orders for the account of pharmacies through jobbers and all hospitals. The price to pharmacies and hospitals had previously been $1.10 per vial of 100,000 units. The demand for penicillin is reported as quite brisk but there appears to be sufficient material to take care of all requirements.

Approximately 3,200,000 vials of penicillin, each containing 100,000 units of the drug, have been released to normal trade channels for civilian distribution since March 15, 1945, WPB officials told members of the Penicillin Producers Industry Advisory Committee at a recent meeting. At least 250,000,000,000 units a month are to be made available for parenteral medication for civilians.

Penicillin production for 1945 is as follows: January, 394,000,000,000 units; February, 405,000,000,000 units; March, 460,000,000,000 units.

In view of the increased available supply of penicillin, the committee recommended that consideration be given to the packaging of 200,000 unit vials of the sodium salt, and to the packaging of the calcium salt of the drug in 100,000 and 200,000 unit vials for civilian use. To date, only the sodium salt of penicillin has been available for this purpose. Steps will be taken to make both sizes of both salts available.

Penicillin combined with peanut oil and beeswax will soon be available for general use by physicians in hospitals. This form of the antibiotic not yet accepted by the Food & Drug Administration was developed by Capt. Monroe J. Romansky of the Army Medical Corps, who found that it was particularly successful in treating syphilis and gonorrhea.

Glycerin Returned to Pre-war Status

During the latter part of 1943 the supply position of glycerin improved considerably. This was brought about by a combination of factors. Among these were the increased recovery of glycerin from soap manufacturing and fat splitting, made possible by the utilization of waste fats; the restrictions on the use of glycerin; the shift in military requirements; and increased imports. The total of crude imported in 1943 was 9,820,771 pounds—an increase of 60 per cent over the 1942 figure. There were no imports of refined glycerin in 1942, whereas in 1943, 371,008 pounds were received.

As supply and demand became more nearly balanced, the various orders were relaxed or temporarily suspended. On April 1, 1944 the order (WFO-34) regulating the use of glycerin was revoked. This action was followed on June 28, 1944 by the termination of the order (WFO-33) which prescribed the standards for the recovery of glycerin from fats and oils split into fatty acids or made into soap.

The need for glycerin for war purposes is still great, but the cosmetic industry can look ahead with confidence that its products will find an expanding market, since the outlook for glycerin at the present time is favorable.

Closely following these developments was the announcement of leading producers of glycerin of a price advance amounting to from 2c to 2¼c per pound. Chemically pure and dynamite glycerin are up 2c a pound. High gravity and yellow distilled are up 2¼c. The advance in glycerin which is used in pharmaceuticals, tobacco, cosmetics, explosives, protective coatings, and a long list of other articles is the first change since September 1, 1944, at which time prices were reduced. The new prices on chemically pure are still a full 1c below ceiling prices. On the basis of the previous spread between crude and refined prices, it is generally expected the price of soap lye will automatically be advanced to 11½c per pound, and saponification to 12½c.

(*Continued on page 795*)

MAY PRICE CHANGES

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Geranium Oil Bourbon $3
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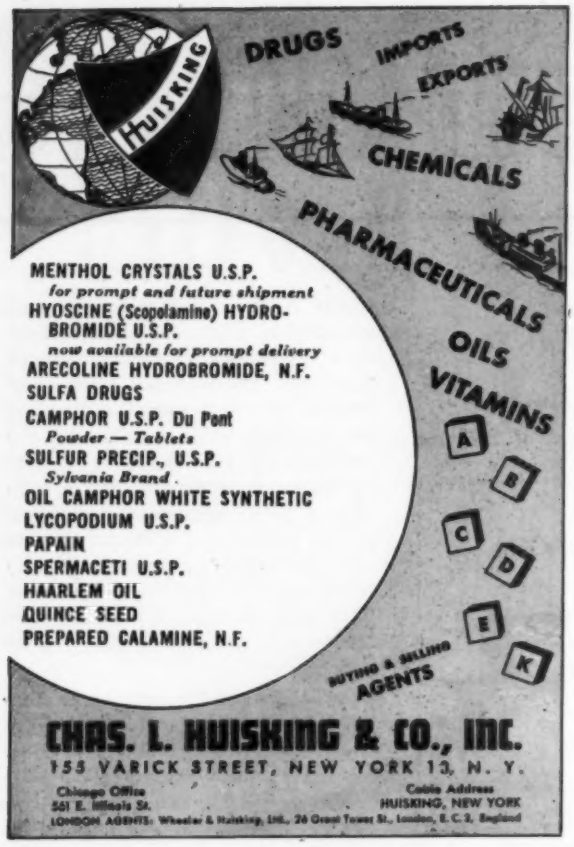
Pine needle oil 40c
Rosemary oil 10c
Saffron Spanish $1
Senna Tinnevelly 1½c
White pine bark 1c

DOWN

Almond oil sweet 7c
Atropine sulfate 15c
Belladonna leaves 15c
Cananga oil native 75c
Rectified $1
Caraway oil $1.25
Cardamom oil 50c
Chamomile flowers Hung. 6c
Cinnamon bark oil $4
Clove oil 5c
Ergot 10c
Gentian root 3c
Henna leaves 1c
Menthol nat. 25c
Mercury $2
Papain powd. pure 25c
Rhubarb root HD 10c
Safrol 7c
Sassafras oil 5c
Artificial 25c
Thyme oil red 25c
white 20c
Tragacanth gum No. 1 50c
No. 2 75c
Valerian root 15c

• Prices quoted in this section were current on the first of this month.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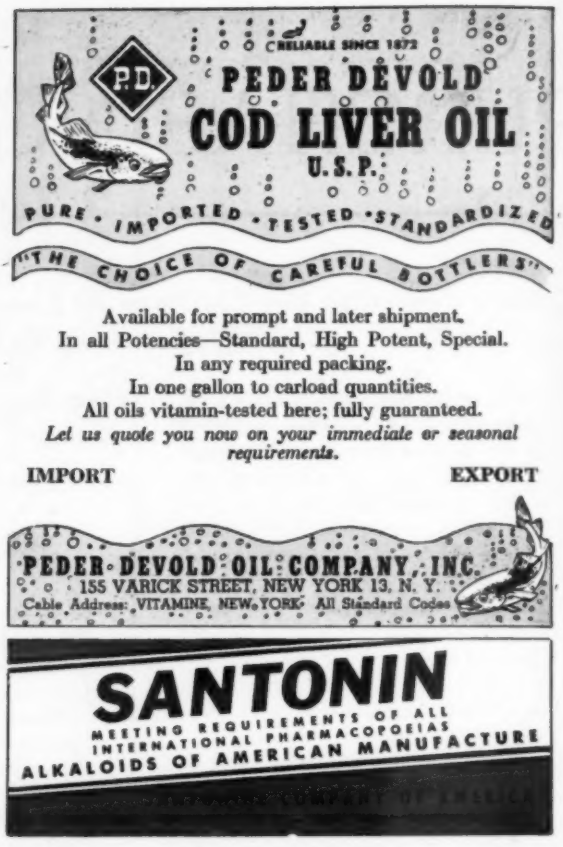
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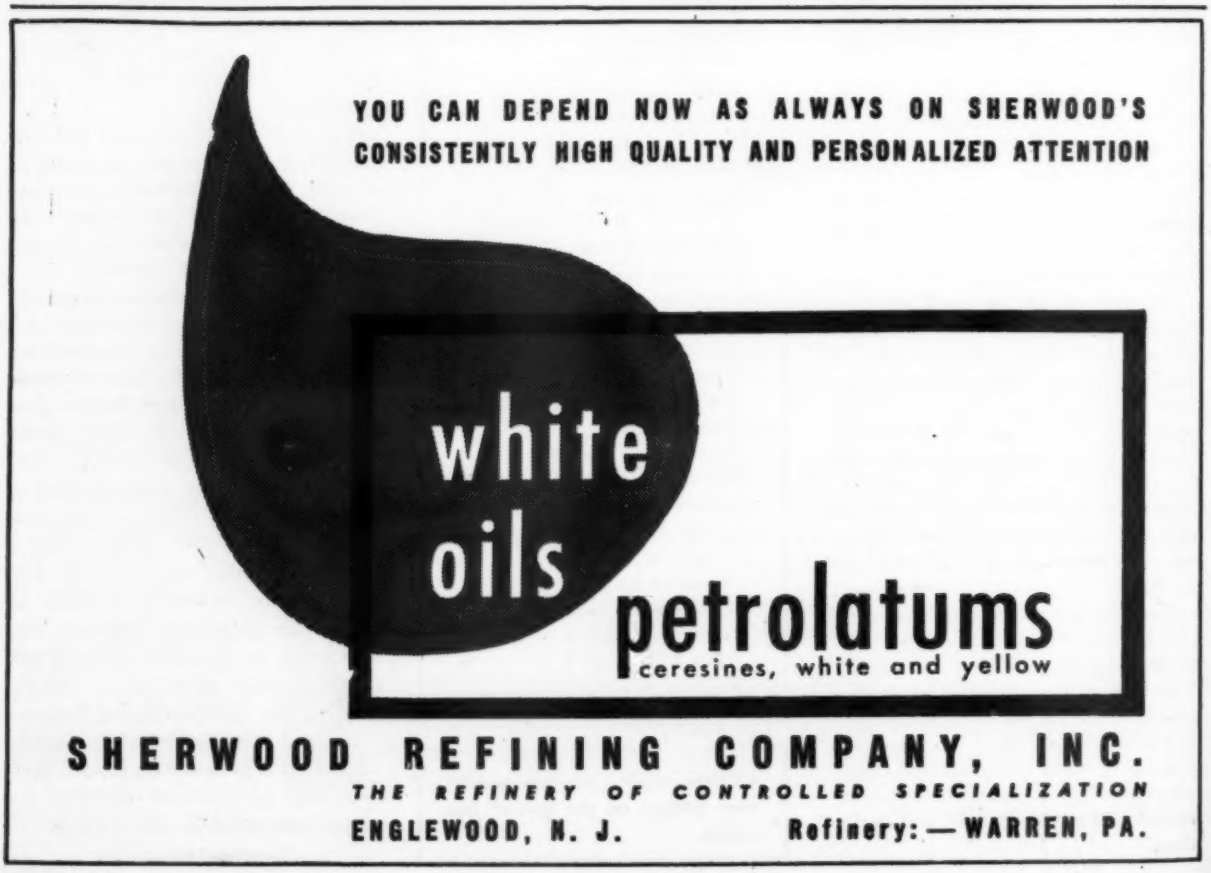
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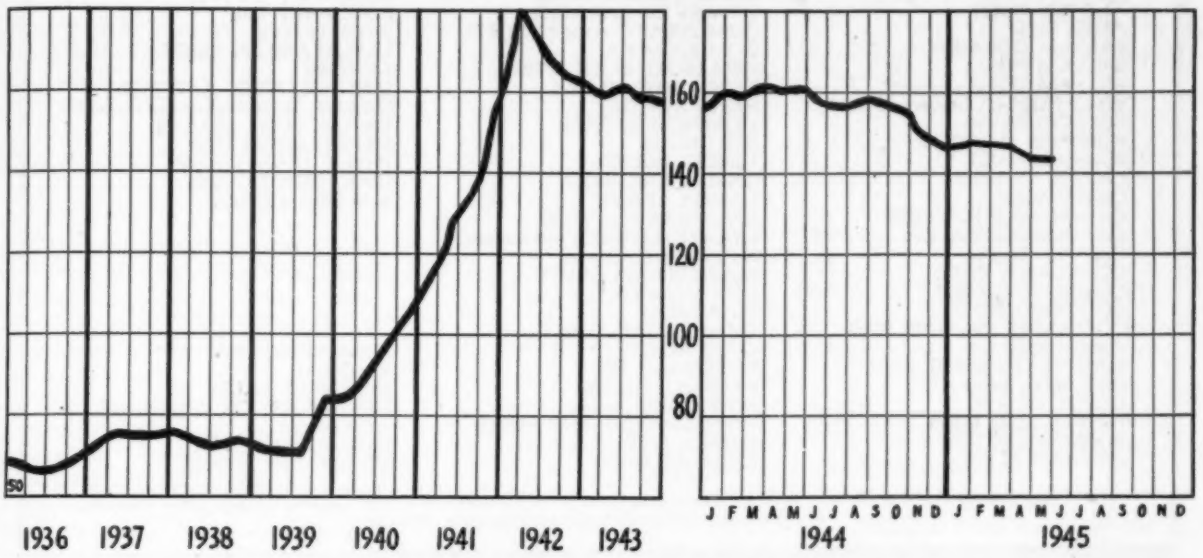
50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for May declined from 143.7 to 143.6.

Small Production Of Domestic Botanicals Expected; Imports From Central and Southern Europe Uncertain.

While doing everything possible to stimulate the production of domestic botanicals, and to encourage and expedite the importation of such commodities in this category, dealers have so far been unable to report an encouraging outlook for future spot stocks.

Italy, Yugoslavia, Hungary, Czechoslovakia, Poland, and Rumania are sources from which about 4,300,000 pounds of crude drugs were formerly imported as compared with a total of about 6,750,000 pounds from all supplying countries.

The above mentioned countries supplied such items as aconite, alkanet, althea, angelica, belladonna, buckthorn, chamomile, colchicum, cornsilk, doggrass, ergot, gentian, hellebore, henbane, juniper, lycopodium, manna, orange peel, orris, pyrethrum, sloe, squill and St. John's bread. Dealers look to the unsettled conditions in these countries and are not optimistic with regard to possible supplies of these botanicals during 1945.

Waxes Tight

Maximum purchase prices affecting importers of carnauba wax, a Brazilian product in short supply, will not be increased, the office of Price Administration said. Importers have complained of the scantiness of foreign offerings and have expressed the opinion that a price increase might draw larger quantities into the market, OPA explained.

However, an investigation of the Brazilian primary market by interested U. S. Government agencies has revealed that only a limited portion of this year's crop remains unsold, OPA said, so that a price change would not remedy the situation.

This year's scarcity is the result of several adverse conditions, among them the fact that the 1945 crop is exceptionally poor, and that recently almost 700 tons were lost at sea. Current ceilings are about 300 per cent of prewar prices, OPA said.

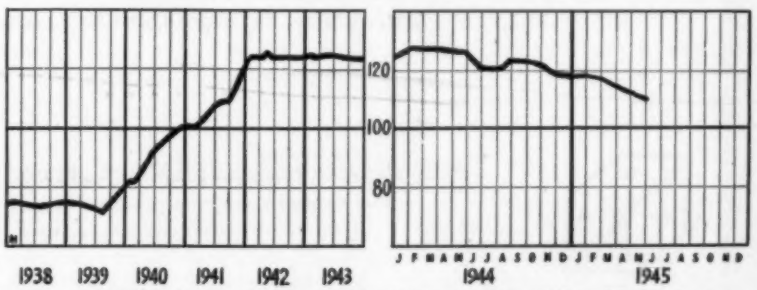
Continued shortages of paraffin wax for military and essential civilian uses have made it necessary to place this product under allocation control in order M-300, schedule 108, beginning with the month of July. The order includes low melting refined, high melting refined and crude scale wax, but does not include raw slop slack wax which is in comparatively free supply and which can be used, officials say, as a substitute material in most cases where refined or crude scale wax is ordinarily used.

Juniper Berries and Orris Root From Italy

The Foreign Economic Administration is currently negotiating for substantial shipments of juniper berries and orris root to be shipped to the United States from Italy, FEA has announced.

Juniper berries are used for pharmaceuticals and alcohol beverages, and orris root as a base in perfumeries, elixirs, and face powders. Importers desiring a share of these products are asked to submit the following data to the General Commodities Division,

15 Medicinal Chemicals—Weighted Price Index. 1926=100.



The medicinal chemicals index declined from 118.3 to 116.2. Menthol was lower at $9.75 and mercury dropped to $153.

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JUNIPER BERRIES
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More Bourbon Vanilla

Based on authoritative reports, about 200 tons of vanilla beans left Madagascar early in May. Arrival of these goods is anxiously awaited in view of the exceedingly tight position that exists in the local trade.

Very dry weather is continuing in Mexico and there are few free beans out of the 1944–45 crop. The outlook regarding the 1945–46 crop is poor and it is feared that a firm market can be expected in the Mexican varieties for at least another year.

With the advent of warm weather, ice cream sales would normally increase. Some concern is felt here regarding this important outlet for vanilla beans in that, while it is understood greater quantities of milk will be made available to ice cream manufacturers, the shortage of sugar is now so acute that allocation to the ice cream producers is likely to be sharply curtailed.

Turkish Tragacanth

The 1944 crop of gum tragacanth in Turkey was estimated at 300 tons, with a carry-over of 250 tons.

Miscellaneous

An arrival of Egyptian henna amounting to over twenty tons was noted. New crop domestic arnica flowers are offered at $2.25 a pound for July-August delivery. Spanish saffron is firmer at from $40 to $41 per pound. Ergot is lower on spot at from $1.10 to $1.15 per pound. Gum karaya arrived to the extent of 1,987 packages. Powdered papain under competition could be bought as low as from $2.75 to $3 per pound. Hungarian type chamomile was shaded to 42c to 43c per pound.

FINE CHEMICALS

(*Continued from page 791*)

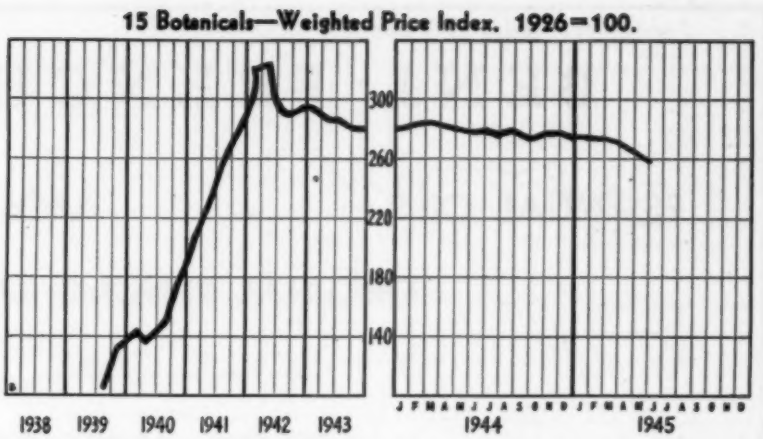
Quinine Situation

Dr. Pieter Honig, member of the Board for the Netherlands Indies, who recently returned to New York from a survey of the East Indies, declared that his observations and last-minute underground reports show that the Japanese have been maintaining all quinine-producing equipment not destroyed by the Dutch early in 1942 when invasion was imminent. "Our men in the occupied Indies report that quinine in the form in which we processed it, and packed in bottles like our originals, is steadily being produced by the enemy to fight malaria," said Dr. Honig, according to a statement issued by the official Netherlands Information Bureau.

"While we know that no Dutch or Indonesians are getting this precious quinine despite our leaving some equipment intact for that purpose, we realize that the Japs have not destroyed trees or processing machinery because they also need quinine desperately and know they will still require it after they are defeated."

Much new equipment for processing cinchona bark into quinine, including 25 huge drying ovens capable of producing 2,200 pounds of dried bark per oven per day, is being purchased in the United States as rapidly as possible, Dr. Honig said. This new machinery, plus vast numbers of trees maturing whenever the Indies are freed, will result in greatly increased quinine production for fighting global malaria, he said.

Dr. Honig pointed out that because cinchona trees, from which quinine is extracted, mature in cycles, no acute shortage of either bark or drug can occur for about 15 years when the trees which have not been planted by the enemy in the last 3 years would normally be ready for harvesting. By that time, authorities believe, the war-caused gap in planting will be closed by other means.



The botanicals index declined from 271.1 to 268.1. Aloes dropped to 48 cents; belladonna was down to 80 cents; ergot dropped to $1.10; gentian declined to 34 cents and rhubarb was offered at 35 cents.

"Because we in the Indies felt that our quinine factories were like hospitals for the maintenance of health, we left one of six major units intact when the Archipelago was invaded," Dr. Honig said.

"We did it in the hope that our own people would benefit by continuing to get quinine, and we thought we should keep at least one unit functioning of all those which had supplied the world with 95 per cent of its quinine in peacetime. We also caused to be left in the occupied Indies 120 experts in cinchona cultivation so that these men and whatever equipment was available would be ready to plunge into volume production after liberation was achieved."

Chile to Expand Olive Oil Production

The Chilean Ministry of Agriculture is to increase production of olive oil so that domestic consumption is exceeded by 5,000 tons. The ministry aims at the planting of 50,000 acres with 2,000,000 olive seedlings during the five years 1944–1948. At present, Chile's olive oil production amounts to about 1,500 short tons from 7,000 acres. It is believed that once the new trees reach bearing age, production will reach about 11,000 tons.

The plan envisages the provision of government loans where necessary for the establishment of storage facilities, processing plants and other activities.

Cod Liver Oil Tight

Spot supplies of cod liver oil is reported down to a low level. No offerings are reported coming through from Iceland and only very limited quantities are available for shipment from Newfoundland. Although spot demand is

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never very brisk at this season of the year, suppliers have very little oil on hand and, because of the uncertainty regarding replacements, the over-all picture is regarded as strong.

Exports of cod liver oil from Newfoundland in 1944 amounted to 314,538 imperial gallons, compared with 331,033 imperial gallons in 1943.

News from Norway, the major source of our cod liver oil supply prior to the war, is anxiously awaited, but it is not likely any large quantities will be available to this country for some time.

Menthol Unsettled

There are reports to the effect that menthol is being offered in Brazil at $11.50 per kilo as compared with a minimum export floor price of $19.50 per kilo. It is understood that efforts will shortly be made on the part of certain interests in Brazil to get OPA to establish a minimum price on menthol at which American buyers will be permitted to pay. Since the spread of prices in Brazil between the minimum export figure and the price the material can be purchased for consumption in the primary center is so wide, it is not likely that any official minimum quotation will be established at this time.

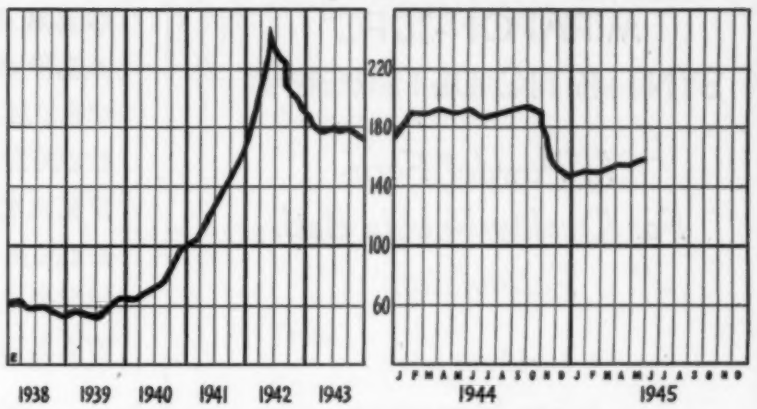
Locally there is a reasonable quantity of menthol from last year's production available at prices ranging from $9.75 to $10.50 per pound, but these goods cost about $14 to $15 per pound. Normally large consuming manufacturers should begin to anticipate their coming season's requirements, but in view of the large production this year and the latest break in prices in the primary center comparatively little forward buying is expected to develop.

It is pointed out that while Brazilian menthol is from $3.50 to $4 per pound below the level of prices in force at the beginning of the year and from $5 to $7 below the quotations named last fall, the over-all picture is regarded as weak because of the greater quantities being produced this year.

Mercury Lower

Mercury is lower. The downward trend is traced to more favorable shipping prices on Spanish metal rather than by any decided falling off in the demand in the domestic market. Small lots of spot domestic metal are offered here at from $153 to $155 per flask, but it is understood that domestic material for shipment from the Coast may be had at $2 to $3 per flask below spot prices. Spanish metal is offered for June shipment at $147.50 per flask, duty paid.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oils index advanced from 151.8 to 153.0. Bergamot advanced to $10.50 and lime oil was higher at $12.50. Cananga was lower at $12, and clove oil dropped to $1.65.

ESSENTIAL OILS

While there was comparatively little change in the essential oil market during the period under review, there is a shortgage in almost every category of the market. Attention has been directed toward securing more adequate supplies from abroad, particularly lavender flower and lavindin oils, bergamot, lemon oil and meroli. The supply position of the market, however, is such that receipts of oils will be absorbed almost immediately upon arrival.

Citronella strong

Ceylon citronella oil is very strong in tone. Reliable reports state that the British Government has declared its intention to buy additional large quantities of oil in the primary market and since Ceylon is a British colony, it is generally believed such requirements will be given preference over other export orders.

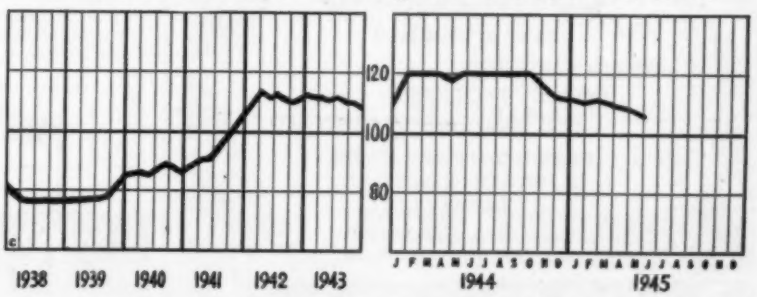
Lime Oil Higher

An outstanding development in the essential oil market is the sudden strengthening in the general position of lime oil. One major supplier canceled prices on coldpressed oil, and in another direction only very limited quantities are obtainable at prices ranging from $13.50 to $14 a pound. An unusual demand has been noted here with few if any arrivals in recent weeks.

Miscellaneous

Spot supplies of bois de rose are exhausted. Eucalyptol, citral, vanillin, coumarin, geraniol, heliotropine and thymol are all scarce. The continued strength in clove oil is attributed to an absence of sufficient facilities to meet demands. All of the ionones and linalool are nominal.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index declined from 114.7 to 112.9. Candelilla wax was lower at 41 cents; glycerin advanced to 17¾ cents; menthol was lower at $9.75; tragacanth declined to $4.

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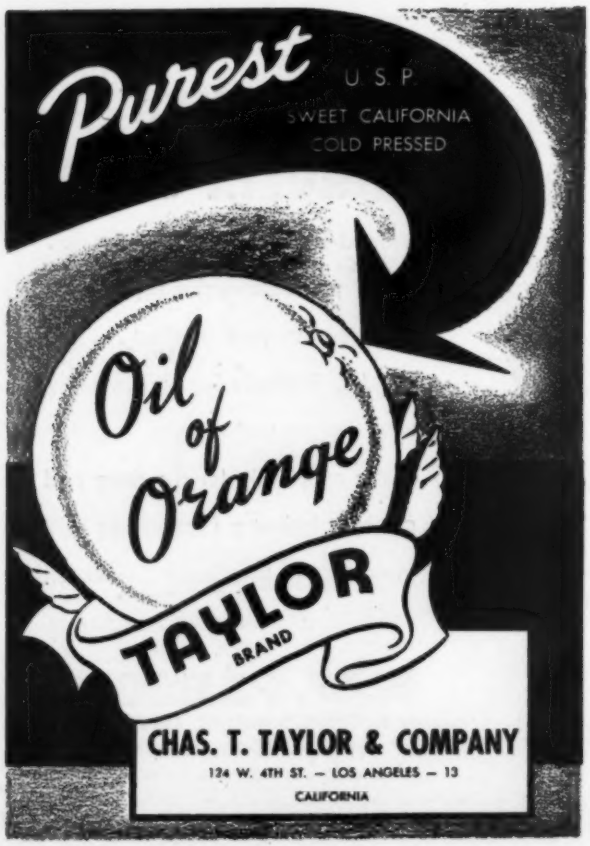

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Talc

(*Continued from page 723*)

cosmetic industry. When in 1942 steatite talc became critical and the WPB order froze all supplies of talc containing less than 1½ per cent iron, 1½ per cent lime and 4 per cent alumina, practically all cosmetic talcs were automatically frozen and talc producers were forced to offer for cosmetic purposes only those talcs the impurities of which exceeded the limits specified in the freezing order. During the years 1942, 1943, and 1944, western talc companies produced over 60,000 tons of talc per year.

The western talc producers claim that the slip of a talc is dependent upon the particle shape of the talc and is derived from the percentage of platy or flat-like particles in the talc. The flakes, being flat, slide over each other smoothly, giving the sensation of slip. It has nothing to do with the chemical structure of the talc, or with its purity. There has been developed a method of determining a particle shape factor enabling scientific grading of talc by particle shape. Further, methods of pulverizing have been developed that take the greatest advantage of this flaky nature of some talcs.

It is claimed by the western producers that hand selection of the crude talc itself is the only method of determining in advance what kind of talc is going to reach

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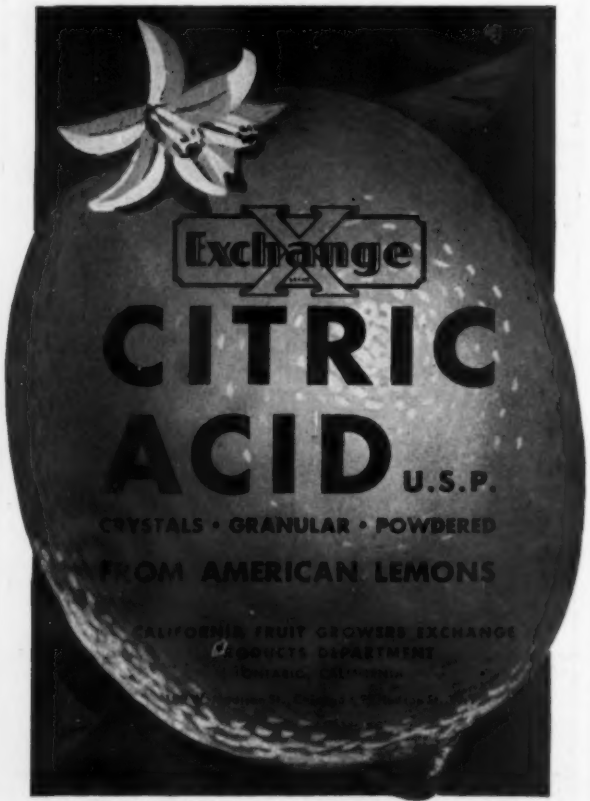

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the mill, and ultimately, the bags. This is said to be the method used by the Italians before the war in separating the flaky material from the granular material, and also is the one way of assuring the elimination of such gritty materials as silica, calcite, feldspar, or ordinary rock. Intelligent methods of analysis, peculiar to talc alone, have been developed enabling domestic producers to control all shipments chemically as well as physically. New supplies of talc are said to have been discovered due to the urgency of the war. These talcs, not yet fully available to cosmetic manufacturers, will become increasingly available as time goes on.

The western talc producers summarize their position as follows: The only advantage that imported talcs have ever had over domestic talcs has been the percentage of slip, or the degree of smoothness. This is not a characteristic of the crude talc, as all crude talcs of steatite nature are roughly the same. It is a matter of selection, sorting, and control. With large supplies of talc available in this country and with the assurance of proper production and control, the cosmetic manufacturers will be able to find in our own western talcs any grades desired.

Thus it appears that the domestic talc producers are going to make a strong bid for a much larger share of the business of cosmetic manufacturers. How far they are going to get in the struggle remains to be seen since the importers of foreign talcs also put up a very strong story for the advantages of their materials.

Cosmetic Emulsions

(Continued from page 721)

To make the emulsion heat "I" by indirect heat at 140° F. until the stearic acid melts and is neutralized by the TEA. Then add this to the Peanut Oil—Perfume Mixture "II," which has been heated to about 130° F. Mix vigorously with a suitable mechanical agitator and continue agitation until the emulsion reaches 5° F. above room temperature. Strain into a storage tank and fill the next morning.

In using amino glycol instead of TEA, it is a wise policy to use the procedure of using the emulsifying agent, so as to say within the emulsion. To do this, the amino glycol is dissolved in the water and the fatty acids and other fatty and oily constituents are melted together. The amino glycol solution and this fatty mixture are then mixed together. Amino glycol emulsions thus made are stable, non-irritating, stay white in color and are easy to prepare.

As a formula to illustrate the method of emulsification, we present one which has been successfully used. Included in this cream is cetyl alcohol which acts as an emulsifying aid. Here again it is possible to make many variations of ingredients in the cream like those indicated with TEA emulsions.

I

110	lbs.	Water
1¼	"	Amino Glycol
10	"	Glycerine

II

40	lbs.	Mineral Oil
20	"	Sesame Oil
3	"	Cetyl Alcohol
3¼	"	Stearic Acid

To make a cream of this nature is quite simple. The amino glycol—water mixture "I" is heated to 130° F. and the fatty mixture "II" is heated to 140° F. by indirect heat in another vessel. Then the fatty mixture II is added gradually to I in a suitable mixer and agitation is continued until cold. The perfume which is not indicated in this formula may be added to mixture II just before the emulsification is started or dissolved in a small amount of specially denatured alcohol and added in the mixer when the emulsion is partially cooled. If color is to be added it should be dissolved in water and strained into the cooled cream. Preservatives may also be added if the cream is prone to chemical change.

We have indicated that the polyhydric alcohol fatty acid esters may become self-emulsifying or act as emulsifying agents when they are modified by the addition of small amounts of soaps. One of these modified esters which finds use in making liquid cosmetic emulsions is diglycol laurate. It is an emulsifying agent for mineral oil and quite simple to use. To make a liquid mineral oil emulsion, 1 part by weight of Diglycol Laurate Modified, 4 parts of Mineral Oil and 5 parts of Distilled Water are used. The diglycol laurate is mixed with the oil until it is clear when stirred. Then the water is slowly added to this solution with a suitable high speed mixer or an emulsifier to form the emulsion. An emulsion of this kind may be altered to carry other ingredients possessing emollient and skin protecting substances.

Glyceryl (mono) stearate is another of the polyhydric alcohol esters largely used for making a water-in-oil emulsion. It is very easy to use and forms very stable emulsions by fool proof methods. If an emulsion made with it becomes defective, it is merely reheated and restirred. This ester is more generally used for solid creams than liquid emulsions. It is used, however, to stabilize liquid emulsions. In quantities as low as 0.5% it has been known to prevent separation.

Satisfactory liquid emulsions may be produced with sorbitol fatty acid esters. These creams possess a "drag" which is pleasant on the skin and do not possess the usual greasy after effect. The manufacturers of this product recommend a cream that has this composition.

I

5	lbs.	Sorbitol Solution
3.4	"	Lanolin
145	"	Water Distilled
0.3	"	Preservative (Methyl parahydroxybenzoate)

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II

8 lbs. Stearic Acid
4 " Lanolin
30 " Mineral Oil (65/75)
4 " Wetting Agent (Span 60)

To make the emulsion by this formula heat "I" and "II" separately to about 170° F. Now add "II" to "I" slowly, while agitating well. Then stir in about 8 oz. of perfume when the cream has cooled and continue stirring until cool. Pass thru a colloid mill or homogenizer, store and bottle.

The oxycholesterin absorption bases produced from lanolin are to be had for either solid or liquid creams. Those made for the liquid creams contain a considerable amount of free lanolin and produce water-in-oil emulsions. Liquid emulsions made from these find wide acceptance in the cosmetic industry. A suitable and simple liquid cream may easily be made from these. The proportion of ingredients is viz:

20 lbs. Absorption Base for Liquid Emulsion
30 " Mineral Oil
50 " Water Distilled
QS Perfume

To emulsify this combination the absorption base is heated by indirect heat at about 115° F. While keeping the temperature around 110° F. the water also heated to 110° F. is added, five pounds at a time and completely stirred into the absorption base before more of the water is added. The perfume is then poured in and stirring is continued until the mass reaches room temperature. Passing the finished cream through a colloidal mill improves its texture. If other fats, oils or waxes are included in the formula they should be molten with the absorption base.

Besides these emulsifying agents there are available others which find some use. In certain cases they are combinations of the products we have considered. With this large variety of emulsifying agents available numerous liquid cosmetic emulsions are possible and it is particularly gratifying to know that with ordinary care most of these are stable and find favorable acceptance among cosmetic users, both male and female.

Handling Ampules

(Continued from page 729)

black is provided and suspended particles can be detected readily by reflected or absorbed light.

"An interesting check was recently made on this lamp. A number of vials of a colorless solution were inspected in the usual manner and ten picked for check inspection by an outside laboratory having a different and considerably more elaborate inspection device. Five vials were picked as being borderline but passable and five borderline but unpassable. The outside laboratory obtained exactly the same results, rejecting five and passing five.

"We do not believe that looking directly through a solution toward a light is as satisfactory as using reflected light. Further, it would appear that limiting the time of observation to a pre-determined interval is advantageous. Some individuals begin to see specks which apparently do not exist, if they stare too long.

"We have found it economical to inspect, label and package in one continuous operation on a conveyor belt. Because some ampule products occasionally cause difficulty by crystallization, it is expedient to allow a short period of time to elapse after sterilization before inspection. Standing for a day at either room temperature or under refrigeration is generally sufficient to reveal such trouble and considerable cost for labeling and packaging is thereby avoided.

"Although crystallization is usually not a major problem, it nevertheless comes under the classification of suspended material. Its cause can usually be traced to a critical solubility relationship adversely affected by slight changes in temperature or a change in pH caused by chemical reaction with carbon dioxide in the air, alkali from the glass etc.

"Another troublesome cause of rejected ampules is particles of glass, which are difficult to remove in washing. Sometimes these particles occur in the form of small irregularly shaped pieces and sometimes as fine filaments which can occasionally be seen suspended from the inside wall of unfilled ampules.

"An extended tabulation covering several hundred thousand ampules of a rather troublesome item which chars readily, showed that in every one hundred ampules lost, sixty-three contained specks, thirty-one broke in sterilization and six contained minute particles of glass. The proportions for another product which does not carbonize were forty-three, fifty-three and four, respectively. The obvious deduction is that real savings can usually be made by purchasing sound, uniform, rigidly inspected ampules. Such breakage can arise from poor sealing or strained glass, but is probably largely due to non-uniform walls which are sometimes so thin that they are unable to withstand the pressure developed during heating.

"The problem of foreign particles in parenteral solutions can never be completely solved until a precise standard is available, and until that time the perfection of a product is a direct reflection upon the care with which it is manufactured."

Eye Lotions

(Continued from page 727)

Peppermint water	**75.0 cc.**
Rose water	**150.0 cc.**
Camphor water	**150.0 cc.**
Distilled water, to make	**1,000.0 cc.**

A neutral eye wash containing zinc sulfate, said to be isotonic with lacrymal fluid and to have a pH of 7.2 to 7.4 is described by one European writer[18] as containing:

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4 A full report outlining the proper procedure will then be rendered giving you full information as to all our findings.

5 Definite recommendations on proper size and type unit will be made based on study of these test results.

6 We are then prepared to submit a formal proposal with adequate performance guarantees and full specifications of the machine recommended.

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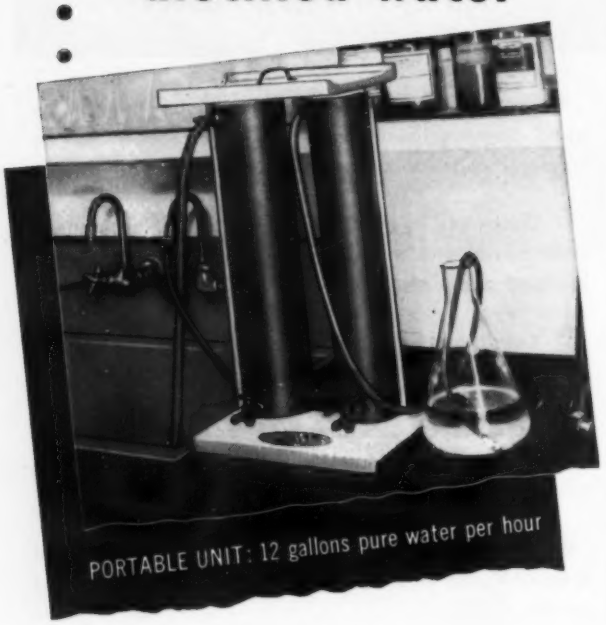

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Zinc sulfate	**0.25–0.50**	**per cent**
Sodium citrate	**0.5**	**" "**
Borax	**1.2**	**" "**
Sodium salicylate	**0.1**	**" "**
Water, to make	**100.0**	**" "**

Other zinc salts may be used to make non-irritating eye drops. In the following formula,[10] in which the pH is raised to the desired level by the use of sodium citrate, zinc salicylate serves as the major active ingredient:

Zinc salicylate	**10.0 Gm.**
Sodium citrate crystals	**12.0 Gm.**
Boric acid	**20.0 Gm.**
Borax	**15.0 Gm.**
Sodium chloride	**3.0 Gm.**
Para hydroxybenzoic acid ester	**0.8 Gm.**
Water, to make	**1.0 liter**

It is not unusual to find more than one soothing astringent employed in a lotion. An example of such usage is given in the following formula:[10]

Boric acid	**2.00 parts**
Zinc sulfate	**0.10 part**
Sodium biborate	**0.50 part**
Distilled extract of witch hazel	**12.00 parts**
Propyl ester of benzoic acid	**0.05 part**
Distilled water, to make	**100.00 parts**

Under some circumstances and for the relief of various abnormal conditions of the eye, it is often quite advantageous to include a small proportion of ephedrine in eye lotions or eye drops. Concentrations of ephedrine not exceeding 1:5,000 tend to reduce redness due to strain or irritation or a mild, non-pathologic blood-shot condition.[20] More commonly, eye drops containing ephedrine for such purposes are made by replacing part of the water with from 10 to 20 per cent of the usual 1:1,000 solution of an appropriate salt.[11]

Ephedrine-containing eye drops are considered quite useful in treating "flash" burns or actinic conjunctivitis, caused primarily among welders by the ultra violet rays produced when an arc is struck. Often quite painful and sometimes incapacitating the worker, the eyes are usually first treated with suitable anesthetic solutions and compresses. Where further, home treatment is required, Koerber[21] recommends that a quarter-ounce dropper bottle of "Welder's Drops" be dispensed. This is made as follows:

Pontocaine	**0.25**	**per cent**
Ephedrine sulfate	**0.25**	**" "**
Menthol	**0.10**	**" "**
Glycerine	**5.00**	**" "**
Boric acid solution, to make	**100.00**	**" "**

Epinephrine or adrenalin produces a more rapid and more powerful vasoconstrictor action than does ephedrine, but its action is not so persistent nor are its solutions very stable. More suited for extemporaneous or prescription products, epinephrine is similarly em-

ployed, usually in 1:1,000 concentration, for treating actinic conjunctivitis resulting from exposure to ultraviolet rays, intense sun rays or so-called flash burns from electrical equipment.[22]

Photophobia, a frequent symptom of these and other forms of conjunctivitis, is very often benefited by epinephrine-containing eye lotions or drops. A mildly antiseptic, astringent preparation that relieves the symptoms and often ameliorates the condition is described by McLean[23] as containing:

Zinc sulfate	**1 grain**
Boric acid	**10 grains**
Epinephrine (1:1,000)	**½ dr.**
Distilled water	**1 oz.**

Epinephrine, so useful in relieving the symptoms of asthma and hay fever, may also be incorporated in eye drops for victims of these allergic conditions. For such persons, eye drops made according to the suggestion of Prickman and Gelbach,[24] may be of value:

Epinephrine hydrochloride	**0.3 cc.**
Sodium borate	**0.3 Gm.**
Boric acid	**0.3 Gm.**
Camphor water	
Rose water, equal parts of each, sufficient to make	**45.0 cc.**

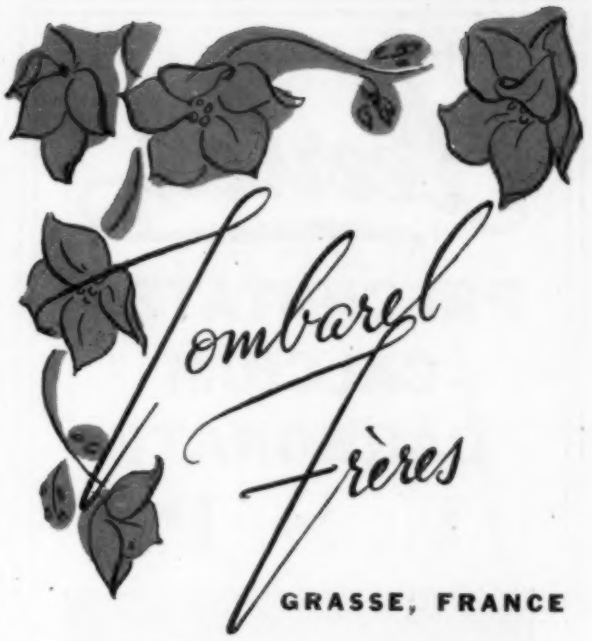
Of the many diseases of the eye, chronic conjunctivitis looms as one of the most important.[25] In the great majority of cases, a microorganism is responsible for the condition and the infecting organism can often be identified from the conjunctival smears. With the causative agent known, treatment can be more or less specific. Unfortunately, however, this is not always possible and treatment must therefore be based upon local cleanliness and the removal of irritating factors. Simple soothing and cleansing lotions, like those previously described, are very useful and form an important part of treatment. Mild astringent lotions are helpful and those containing zinc sulfate are often prescribed.

In the more acute forms of conjunctivitis, simple cleansing solutions are of importance, but the use of collyria with more pronounced antibacterial action is generally required. Not particularly complicated, one antiseptic solution suggested by Perrin[22] contains:

Mercuric chloride	**½ grain**
Boric acid	**40 grains**
Distilled water	**8 oz.**

A slight modification of this prescription is the substitution of one grain of mercuric oxycyanide for the half grain of mercuric chloride.

Mention of antibacterial action immediately brings into consideration the value of sulfonamide drugs in the treatment of ocular infections. Sulfa drugs have proved of definite therapeutic importance. For local application, they are generally employed in suitable ophthalmic ointments or creams, usually in about 5 per cent concentration. However, the advantages



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and conveniences of liquid preparations have not gone unnoticed and many attempts to prepare suitable sulfa eye drops or lotions have been made.

According to Blake,[26] sulfanilamide is used locally in 0.8 per cent solution in normal salt solution. Because of their low solubility, sulfathiazole and sulfadiazine are preferably employed as 5 per cent sodium or calcium salts. However, these salts are slightly irritating to the conjunctiva. In powder form, this authority notes, sulfanilamide and sulfathiazole cause little irritation and are frequently most effective. The latter is best used in microcrystalline form in order to obtain greater surface exposure to the drug's action.

Several years ago, Turnbull and his associates developed a stabilized sulfa solution for the treatment of upper respiratory tract infections and this has since been modified for use in ophthalmology.[27] The solution contains 1.0 per cent sodium sulfathiazole stabilized with 0.75 per cent sodium sulfite to which has been added 0.1 per cent of desoxyephedrine hydrochloride. The solution is stable, non-irritating and buffered to a pH of 9.0. Found beneficial for opthalmic use, it has given definite relief in many types of eye infections.

Tried in the treatment of epidemic keratoconjunctivitis, Gradle and Harrison[28] found this solution apparently of great value in this disease. It reduces the time of the acute conjunctival aspect and the subjective discomforts of the disease disappear under such treatment with "amazing rapidity."

Of interest in connection with the local use of sulfonamides is the finding that wetting agents greatly increase the penetrability of drugs through the cornea and thus improve their effectiveness.[29] Bellows and Gutman[30] have found that one wetting agent (Aerosol OS), used in 0.5 to 1.0 per cent concentration increased the ability of sulfathiazole to penetrate the cornea and produced a concentration over fourteen times greater in the aqueous humor. Other studies[31] have shown that a higher concentration of sulfonamide compounds is obtained by local application through the use of wetting agents than from oral administration.

Valuable in the treatment of some eye infections, sulfa drugs are useless in others.[26] Moreover, the routine use of the sulfonamides locally for minor injuries of the cornea and as a postoperative medication are contraindicated because they delay healing.[29]

With penicillin now available for general distribution, this potent antibiotic should find quite extensive use in treating eye conditions. Indeed, there is anticipation that striking results will be obtained in the treatment of infections that do not respond to other forms of therapy. Already there are several reports on the beneficial effects following the local application of penicillin solutions.[32, 33]

Struble and Bellows,[34] for example, made tests on both rabbits and man to determine the reaction of the eyeball to topical application of penicillin. On the rabbit cornea, concentrations as high as 20,000 units per cc. caused no visible changes. In man, solutions

containing 10,000 units of penicillin per cc. produced only a slight smarting when dropped into the conjunctival sac. Careful examination of the eyeball revealed no alteration in the corneal epithelium. Clinical application of penicillin drops, containing 200 to 2,500 units per cc., gave gratifying results in a total of thirteen cases. On the basis of their observations, these workers feel that topical applications of penicillin are the most suitable form of administration for external infections of the eyeball and the parts associated with it.

In England, Crawford and King[35] studied the effects of local penicillin applications in superficial infections of the eyes and lid margins. In their work, they used the sodium salt of penicillin supplied in sterile tablets of 7,500 units each. From these tablets eye drops and ointments were made which contained 250 units per gram. The drops were used in patients who had severe conjunctivitis with infection and discharge but without secondary involvement of the cornea. The ointment was employed in the more severe cases. In all, twenty-eight cases were treated and it was found that for superficial infections of the conjunctiva, cornea and lid margins penicillin far exceeded any therapeutic agent previously used. It proved highly effective in stubborn cases that had been resistant to the usual methods of treatment.

Although storage in a refrigeration will prolong the active antibactial life of penicillin solutions, their lack of stability limits them to more or less immediate use. Various methods have been tried to surmount this difficulty and no doubt ways will be devised for safely stabilizing penicillin solutions.

Tyrothricin, another potent antibiotic, has also found valuable application in the local treatment of eye infections.[22, 25, 36, 37] A combination of two potent antibacterial substances, gramicidin and tyrocidia, this agent is employed for surface and open cavity irrigation and cannot be given by injection. Used locally, tyrothricin solutions have been employed successfully in acute and chronic conjunctivitis, corneal ulcers, and chronic infections of the eye sac.

The trend in the formulation of eye lotions and related liquids, whether for simple eye hygiene or for the treatment of ocular disorders, is toward simple and more specific products. The general public, too, is becoming increasingly aware of the importance of proper eye hygiene and the need for prompt attention in case of infection or other eye disorders.

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(Continued on page 817)

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Nutrition aud Geriatrics

(*Continued from page 719*)

by making or provoking extraordinary demands. The progressive stages of malnutrition are, in the order given: tissue depletion, bio-chemical lesions, functional changes and anantomic changes.

Perhaps the most common failing incidental to advanced age is the decrease in visual capacity. Park who observed 100 supposedly normal adults found an 83 per cent incidence of vitamin A deficiency. Jeghers examined 162 medical students with the result that 40 per cent exhibited definite A deficiency. Barborka conducted tests on 700 clinical patients, of which 60 per cent were vitamin starved. An early sign of A deficiency is nyctalopia or night blindness. But the vicious part of state is that even mild sub-optimum levels of vitamin A, existing over many years, eventuate in changes in the epithelium of the cornea and atrophy of the para-ocular glands. These glands, if no longer functioning, permit the cornea to become dry, which in turn is instrumental in the cornea becoming erythematous, edematous and cloudy—with an obvious loss in ocular efficiency. In prophylaxis or therapeusis, all persons above 50 should receive 10 to 50 thousand units of vitamin A daily. Riboflavin is even of greater significance in eye changes. The symptoms characterizing its deficiency have been experienced by all—old or young. Itching, burning, sandy sensation in the eyes are the most common followed by intolerance to light, excess lacrimation or watering. Extension of this syndrome results in opacity of the cornea with disastrous effect upon vision. Cataract has been experimentally proven to be a B_2 deficiency and there is well founded suspicion that the same is also true in man. Daily ingestion of ten milligrams of riboflavin is a must with all persons where any ocular symptoms exist.

Loss of or reduced audible capacity, (hearing), is far more common than heretofore supposed. From the present magnitude and the number of participants in the hearing aid business, it may be judged that partial deafness is widespread among older persons. The use of B complex in the treatment of Menieres syndrome, (tinnitis or deafness), otosclerosis, and eighth nerve neuropathies are discussed by Guggenheim (Mod. Med. 9:68, 1941). It is stated therein that these conditions are favorably influenced by this treatment. Jone, (Laryngoscope 51:609, 1941), delineates the role of vitamins in eye, ear, nose and throat pathologies. His experiences indicate that it is a constructive and important one. Selfridge, G. (Ann Otol. Rhinol. Laryngol. 48:419, 1939), found that six of his patients with deafness associated with lesions of the eighth nerve, substantially improved after administration of niacin and thiamin. These few references more than suggest that the treatment of variable degrees of deafness by B complex is worth a trial.

Arthritic and rheumatoid diseases respect no age but the old are most susceptible. The pathogenesis

for these distressing and disabling ailments is complex and mercurial. However it is invariably preceeded by or coincidental with a lowered body resistance or tone. Therefore any measures which will improve body tonus or resistance will aid in controlling the disease. In view of the already discussed nutritional status of the older patients, a first and long step towards relief would be immediate and forceful dietary supplementation with all known factors.

Cardiovascular disease is one of the truly great killers. Of all deaths at 65 and over, 62 per cent are attributable to cardio-vascular-renal pathology, (Special Reports, Bureau of the Census, 15:219, April 15, 1942). Weiss and Wilkins discuss the widespread occurrence of cardiovascular disturbances as a result of thiamin deficiency and report spectacular response to B_1 therapy, (Ann. Int. Med. 11:104, 1937). Crowell, (South Med. Surg. 99:585, 1937), related beneficial results from the simultaneous use of thiamin with digitalis. Gessler, (Scalpel, Bruxelles 91:898–901, 1938), describes the cardiac and circulatory symptoms characteristic of B_1 deficiency, which includes myocardial insufficiency, dilatation of the arterioles and instability of the sympathetic nervous system with diminished vagal tone. The literature bountifully supports the summary that cardiac manifestations may develop in early or late athiaminosis. Tachycardia, bradycardia, symmetrical enlargement of the heart, signs of congestive failure not unlike that of other forms of myocarditis—all may be included in the above potential symptoms. Edema or swelling of the extremities may result from lowered heart output. Left and right systolic murmurs are common. Difficult breathing and palpitation upon exertion are also frequent. Cardiac dilatation with circulatory collapse and sudden death may occur. Potent dosage with thiamin plus other factors of the B complex does in many instances produce a recession of these symptoms followed by a more normal overall picture.

Probably the most deadly, insiduous and refractory pathology affecting the vascular system is hypertension. With systolic pressures in the 200s, the entire vasculature is pounded unmercifully until a rupture brings on death. So far a specific cure is unknown as is the exact etiology. There seems to be some evidence that the immediately etiologic factor is the liberation of a toxic substance in the kidneys. Experimentally in animals, hypertension has been cured by extirpation or withdrawal from function, a portion of the kidney tissue. Although much more study remains to be done, some success has been achieved with massive doses of ascorbic acid, 1,000 mgm. daily and vitamin A, 50,000 units daily. Their mode of action is of a detoxifying nature. Later advices suggest that whatever effect was noted from vitamin A is due to A plus other unknown factors existing in fish liver oils. In any event, every hypertensive should be subjected to this treatment in conjunction with other forms of management.

Arteriosclerosis is a more or less irreversible disease of old age. More commonly known as hardening of

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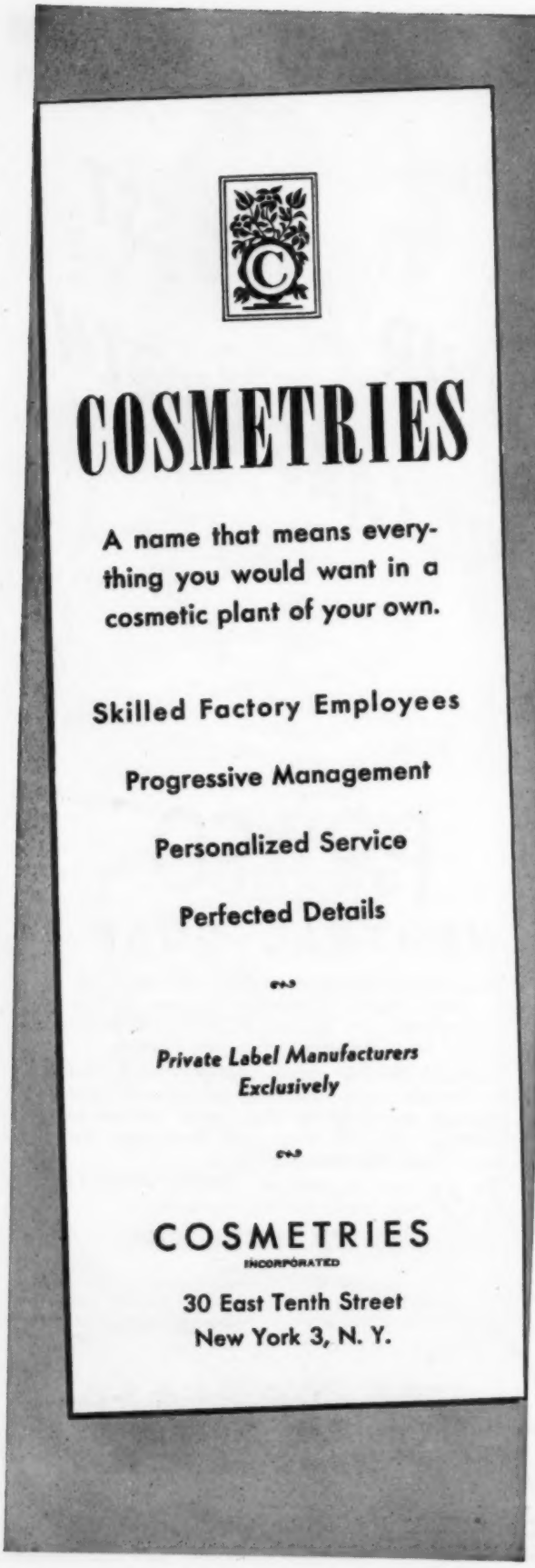

the arteries, it is characterized by a thickening, hardening and loss of elasticity of the arterial walls. The causes are obscure and but few theories are offered. Hypertension is probably of considerable guilt but not entirely responsible. Careful control of convalescence is the only palliative. Extension should be prevented by optimum dietary plus supplementation with vitamins and minerals.

Pulmonary diseases are of next importance. Chronic bronchitis or cough is common in the aged. This term covers a group of symptoms including cough, expectoration, and dyspnea. Its causes are manifold but as with nearly all pathology, is inextricably associated with a loss of vitality or resistance. For such cases, besides other known measures, therapeutic amounts of A, D, B complex, C, and calcium, phosphorous and iron should be daily supplied. Asthma is particularly distressing to those in advanced years. Pathogenesis herein again is vague and the most popular treatment is merely symptomatic. Appreciable success has been observed through the use of 1,000 mgm. of ascorbic acid daily. Its mode of action is unknown but may be of detoxifying character. Pneumonia is an inflammation of the lungs and is especially deadly to the aged. As with so many other infectious diseases, its prescence is always indicative of a lowered resistance to invading pathogenic organisms. The best treatment is prevention. Wooley, J. G., and Sebrell W. H. (National Institute of Health), present evidence that vitamins do help build resistance to disease. As a result of experimental work on mice, they found that those animals deprived of adequate amounts of thiamin and riboflavin showed a greater susceptibility to fatal infection with type 1 pneumonia. The inclusion of all known nutritional accessories in the daily dietary would be worth while insurance against pulmonary infection. The management of Influenza, (la grippe, catarrhal fever, common cold), and its prevention is practically the same as that for other pulmonary diseases, excepting pneumonia for which specific therapy is available.

Diseases of the gastro-intestinal tract are part of a viscious circle. By interfering or preventing the absorption of vital foodstuffs, the body is conditioned for the other pathology, distant and more or less unrelated. Constipation falls in this category. The prevalence of this disturbance among all age groups may be estimated from by quoting the amount of money spent in 1943 for laxatives—which was ninety million dollars. Sufficient water should be assured as should also be adequate amounts of B complex which is definitely concerned with intestinal motility. Achlorhydria or insufficient hydrochloric acid secretion seriously interfere the proteolytic action of pepsin, without which there can be no digestion of proteins. Low gastric acid is now an accepted thiamin deficiency symptom and in most cases can be corrected. Diabetes or hypoinsulinism is an irreversible disease of the pancreas. Life can be and is sustained for a normal lifetime by the artificial supplementation of insulin. Life to a diabetic

depends not only upon insulin but equally so upon a rigidly restricted diet. Since apparently ample and uncontrolled menus are frequently deficiency producing, it cannot be otherwise than that the average diabetic diet is also deficiency producing. Sindoni states (Vit. Def. in Rx. Diets of Diabetics, Amer. Jl. Dig. Dis. 3:759, 1936), supplementation of all vitamins and minerals herein would be an efficient gesture in the elevation of the physical and mental status of diabetics.

Mental and emotional recession covers a number of disturbances such as mental fatigability, difficulty of concentration, loss of memory, confusion, depression, irritability and emotional instability are now unequivocally accepted as a segment of a chronic or acute B_1 deficiency syndrome. In the face of such symptoms, 10 to 50 mgm. of thiamin should be administered daily in divided dosage, plus significant amounts of the entire B group. Other mental symptoms referable to niacin inadequacy are: confusion, vertigo, depression, hallucinations, delusions and in extremes progressing to psychotic aberrations of the paranoid type. Treatment in these cases should be carried out with 100 to 500 mgm. niacin amide daily in divided doses, again accompanied with substantial amounts of the entire B group. The neurologic symptoms of both thiamin and niacin are doubtless due to altered metabolism and degradation of brain tissue, myelin sheath of peripheral nerves and other degenerative neural changes.

Insomnia is an insiduous affliction and is particularly damaging to the aged. Karnosh sums up the entire matter most comprehensively when he says, "therapeutic doses of B_1 and C should be given to stay the insomnia incidental to cerebral arteriosclerosis and to senile decay—rather than employ large and continued doses of sedatives, the sleeplessness of cardiac deficiency, of post infectious cachexia and of exhaustive states which deplete the nervous system, the problem should be first approached with vitamin replacements which obviously treats a cause rather than a surface symptom",(Karnosh, Treatment of Insomnia, J.A.M.A. 113:1322, 1939).

Diseases of the sex organs: the male climacteric is heralded by hot flushes, emotional instability and a general let-down. These symptoms are precipitated by a glandular imbalance, probably through a diminution of testicular function. In the female, the menopause gives rise to a somewhat parallel syndrome, traceable back to imbalance produced by hypo-ovarianism. Unpleasant or distressing side effects are accepted as normal because of their universality—inasmuch as majority behavior determines normality. In these cases, such reasoning is a fallacy. A natural function such as the tapering off of reproductive facilities does not need to be a troublesome phenomenon. Proof of this rests in the fact that not all persons are subject to same. The endocrine imbalance is probably conditioned and attenuated by a general deterioration, which commenced long before the climacteric period.

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Sexual impotence in the male is a cause of grave concern to the patient. Unless due to actual organic lesions, the etiology rests in a general physical debility and should be treated from this angle.

A superficial exploration of laboratory, clinical and statistical research yields vital and applicable data in the extension of useful life. Tannenbaum (Nutr. Rev. 2:146, 1944), reviews insurance statistics which point out that the incidence of cancer is higher in overweight persons than in those of average weight or less. Obesity, apparently then does predispose towards neoplastic disease. Visscher, M.B. et al at the University of Minnesota School of Medicine, report from their studies on a C3H strain of virgin female mice, who on an unrestricted diet showed a 67 per cent incidence of mammary cancer—but another group of the same strain developed no cancer when caloric intake was severely restricted yet simultaneously received an optimum intake of all other nutritional accessories. Interpretations here closely parallel Tannenbaum's work.

McKay, V.M. at Cornell University that rats fed all essentials but subject to caloric restriction lived twice as long and were less subject to disease than those animals permitted uncontrolled dietary. This survey covered over eight years and involved more than 2,500 rats. The inference that may be gathered from these references is that overeating shortens life and favors neoplastic changes. Obesity is an obvious betrayal of abnormal appetite and surrender thereto. This condition is the precursor of such pathology as hypertension, cardiopathy, diabetes, arteriosclerosis and other idiopathic conditions. Longevity and obesity are immutably foreign to each other.

In relation to the immensity of the already published material relative to the relationship of nutrition and health and disease, the foregoing discussion is but a shallow introduction. Bicknell & Prescott, (The Vit. in Med. Heineman, London 1942), assert that just before the war 3,000 original papers appeared annually. Those who wish to pursue the subject further are referred to Quarterly Cumulative Index Medicus, Chemical Abstracts, Biological Abstracts, and Nutritional Abstracts and Review.

Such pursuit cannot but result in the dawning realization that the pathology of Man is of his own creation and that Nutrition is the cause as well as the cure.

Repackaging Black-Draught

(Continued from page 725)

carton. Thus the back panel now bears direction data, and its former trade-mark function is supplemented by an imprint on the circular. Thus the front and back views of the package are similar to what they were before, with some of the gingerbread eliminated. This circular is not, however, glued to the package because to have done this would have eradicated the printed

data on the back panel of the package itself. In order to register a small folded circular like this one and also to use pliofilm it was necessary to develop a special wrapping machine which deposits the folded circular and wraps the package at the same time. This is probably the only instance in the industry where a folded circular is registered on a small package and held in place by means of a wrapper only. Indeed, it is one of the very few instances in any packaging field where such an operation has successfully been performed.

The new consumer unit now consists of a single carton, a small folded circular, and a very small piece of pliofilm. Four of those packages are wrapped together with heat-sealed cellophane so as to form the standard Mammoth merchandising unit so long utilized by the company. Thus does the new Black Draught package contribute to defense; to plant efficiency; to moisture protection; and to consumer convenience.

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Naphthalene	730
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Hexachloroethane	20
Paradichlorobenzene	100
Bornyl acetate	50
Eucalyptol	30

BUTYL STEARATE: I cannot seem to find any information relative to the use of butyl stearate in any of the texts available to me. Can you tell me where it is used in the manufacture of cosmetics or in the treatment of dermatological conditions? Berkeley.

Butyl stearate is sometimes used as a plasticizer in nail enamels in conjunction with dibutyl phthalate and is reputed to enhance the lustre. Butyl stearate also finds application as a solvent for fluorescence dyestuffs in lipstick manufacture.

Although it is not as commonly used in this connection, I do know of at least one instance in which it has been suggested as an ingredient of a vanishing cream.

Eye Lotions

(*Continued from page 811*)

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TABLET MAN wanted by pharmaceutical house in middle west. Want man experienced in granulation, compression and coating, and able to take charge of department. Give qualifications, salary expected in reply to Box 721, DRUG & COSMETIC INDUSTRY.

PERFUMER—Reputable Swiss house of long standing with extensive export markets has opening for experienced perfumer for immediate or post-war employment in Switzerland. Excellent prospects for efficient man. Attractive working conditions. Please state full particulars in first letter; age, nationality, education and training, experience, salary desired, earliest possible date of entering, etc. Replies held in strict confidence. Box 718, DRUG AND COSMETIC INDUSTRY.

PHARMACEUTICAL CHEMIST with good educational background and prior production experience to take charge of and operate a newly established development laboratory to adapt research developments to a production scale. Must be familiar with F.D.A. labelling requirements and be able to handle contacts for clinical investigation. George A. Breon & Company, P. O. Box 769, Kansas City 10, Mo.

ASSISTANT PURCHASING AGENT, fully familiar pharmaceutical and allied chemicals, accustomed handling large volume details, production records, etc. State full particulars, age and salary expected. Box 734, DRUG & COSMETIC INDUSTRY.

PHARMACEUTICAL CHEMIST thoroughly experienced on parenteral solutions, glandulars, etc. 8400 West 3rd St., Los Angeles 36, Calif.

A WELL-KNOWN perfume and cosmetic firm is looking for a package designer to act as assistant to president. Write giving complete details as to experience and background. State salary desired. Wonderful opportunity for the right person. Replies will be treated in strictest confidence. Box 733, DRUG & COSMETIC INDUSTRY.

Help Wanted

EXPERIENCED COSMETIC SALESMAN with successful record wanted by well established young progressive company. Box 730, DRUG & COSMETIC INDUSTRY.

COLOR RESEARCH CHEMIST. Large mid-western research organization has an opening for a graduate chemist experienced in basic color research. Work will be with colors as applied to the human skin. Some manufacturing experience desirable. Permanent position with excellent future. Write complete details of education and experience in first letter. Box 729, DRUG & COSMETIC INDUSTRY.

BACTERIOLOGIST, Ph.D. or M.D., pharmaceutical firm, New Jersey, $7500 up.
ASSISTANT MEDICAL DIRECTOR, pharmaceutical firm, N. Y. C., write copy, booklets, etc., $10,000. The New York Medical Exchange, 489 Fifth Ave., New York, N. Y. Suite 605.

ARE YOU the Sales Manager we want? We are a well-known brand cosmetic concern. Our product is now being featured by the leading stores of America. We want a sales manager that knows the cosmetic business, who can manage and direct a national sales organization, who has vision and foresight, who can plan national advertising. If you are that man the earning possibilities are unlimited. State your qualifications, experience and background in first letter. All replies will be confidential. Box 727, DRUG & COSMETIC INDUSTRY.

Situations Wanted

PHARMACEUTICAL CHEMIST, 40, married, 3 children. Draft status 4A. Ph.Ch., B. S. in Pharmacy, M. S. Licensed pharmacist in New York, Conn., Tenn. Four years Pharmacy instructor, ten years manufacturing, control, administrative experience. Desires position with broader possibilities. Available June first. Box 717, DRUG & COSMETIC INDUSTRY.

CHEMIST AND PHARMACIST with experience in South America, wishes a position as production man or assistant to production man with a cosmetic or pharmaceutical manufacturer. Box 728, DRUG & COSMETIC INDUSTRY.

TABLET DEPARTMENT HEAD: Young man, B. S. in Pharmacy with seven years experience in leading drug houses desires a permanent position with ethical company. Location New York metropolitan area. Box 737, DRUG & COSMETIC INDUSTRY.

Business Opportunities

ADVICE ON TOILETRIES MANUFACTURE: Creams, Lotions, Dentifrices, Hair and Shaving Preparations, etc. "Pharmaceutical Consultant," 19 Valley Road, White Plains, N. Y.

TO MANUFACTURERS SEEKING EXPANSION. A well-known Company in Louisiana with established contacts with wholesale drug, grocery and notion trade throughout the Southern States and Central America; wishes to act as distributor for a firm manufacturing an inexpensive line of Drugs, Extracts or Cosmetics. Promotional, repacking facilities, and large warehouse are available. Give full particulars. Box 713, DRUG & COSMETIC INDUSTRY.

LABORATORY amply related Mexican market applies for distribution: Cosmetics, Essential Oils, Chemical Products, Dyes. Laboratories Yarmil, Box 2058, Mexico.

CHEMICAL ANALYSES. Routine tests by Official Methods. Drugs, Chemicals, Pharmaceuticals. H. J. Hailoweil, Analytical & Consulting Chemist, 323 Main Street, Danbury, Connecticut.

FOR SALE: Entire production pure Calcium Thioglycollate, Menadione and Menadione Sodium Bisulfite. Box 731, DRUG & COSMETIC INDUSTRY.

WILL PURCHASE concern manufacturing Drugs, Cosmetics and Allied Items. Will treat replies confidentially. Box 732, DRUG & COSMETIC INDUSTRY.

EXPORTER interested in exclusive agency for distribution of toilet goods, cosmetics and perfumes for India. State full particulars. Box 735, DRUG & COSMETIC INDUSTRY.

MANUFACTURER of high grade toiletries and perfumes desires sales representatives with following in department stores, wholesalers and high class chains. State details. Box 736, DRUG & COSMETIC INDUSTRY.

SALES EXECUTIVE leaving July 1st, for the Pacific Coast to open sales agency, contacting Drug Jobbers, wishes to represent on a commission basis, established firms now doing business on the West Coast. Willing to maintain warehouse for use of firms represented, and finance accounts if necessary. Can furnish best of references as to financial responsibility and integrity. Please state items manufactured. Will try to arrange personal interview if possible. Edwards, 97 Sylvan Rd., Rochester 7, N. Y.

TERMINATIONS? CANCELLATIONS? *We will BUY*:—Raw Materials, Finished Products, Bottles, Jars, Caps, Machinery, Equipment. Box 738, DRUG & COSMETIC INDUSTRY.

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ADVERTISING INDEX

Abbott Laboratories....784
Allied Products, Inc....Insert facing 700
Aluminum Company of America....Insert facing 740
Aluminum Seal Co....Insert facing 765
American Cholesterol Products, Inc....779
American Druggist....703
Anchor-Hocking Glass Corp....734
Andresen, J. C....803
Apex Chemical Co., Inc....779
Aridor Company, The....695
Armour & Company....786
Armstrong Cork Co....736
Baker Chemical Co., J. T....Insert facing 752
Bender Corp., The....801
Benzol Products Co....802
Bernardin Bottle Cap Co....739
Braun Co., W....748
Bridgeport Metal Goods Mfg. Co....748
Broder, Harry, Inc....680
Brown Bag Filling Machine Co....768
Bush & Co., W. J....796
Calco Chemical Co., Inc....689
California Fruit Growers Exchange....Insert facing 780; 804
Can Manufacturers' Institute....Insert facing 764
Carr-Lowrey Glass Co....738
Celluplastic Corp....743
Chemo-Puro Mfg. Corp....800
Chiris Company, Inc., Antoine....697
Chrystal & Co., Charles B....800
Colgate-Palmolive-Peet Co....817
Colton Co., Arthur....770
Commercial Solvents Corp....708
Consolidated Fruit Jar Co....748
Consolidated Products Co., Inc....748
Continental Can Co....742
Cosmetries, Inc....814
Cosmia Laboratories....817
Crown Cork & Seal Co....730
Crown Cork Specialty Corp....692
Dallal & Co., D. S....819
Delton Products Corp....819
Diagraph-Bradley Stencil Machine Corp....772
Dodge & Olcott Co....Insert facing 693
Dorr Company....762
Dow Chemical Co....Insert facing 732, 753; 777
Drury & Co., A. C....Insert facing 712
Duche & Sons, Inc., T. M....800
du Pont de Nemours & Co., E. I....Insert facing 781
Durlin Corp....Insert facing 701
Duval Compagnie (Div. of S. B. Penick & Co.) Insert facing 692
Economic Machinery Co....811
Eisler Engineering Co....768
Empire Box Corp....685
Ertel Engineering Corp....768
Evans Chemetics, Inc....686
Fairmount Chemical Co....819
Federal Telephone and Radio Corp. Ins. bet 708-709
Felton Chemical Co., Inc....Insert facing 689
Filter Paper Co....768
Fine Organics, Inc....803
Firmenich & Co., Inc....Cover 4
Florasynth Labs., Inc....Insert between 708-709
Food Research Laboratories, Inc....819
Franks Chemical Prod. Co., Inc....820
French, Inc., Benj....796
Fritzsche Bros....Insert between 788-789
Furlager Mfg. Co....705
Gair Co., Inc., Robert....696
Gardner-Richardson Co....Insert facing 741
General Drug Co....Insert facing 684
Gesell, Inc., R....804
Givaudan-Delawanna, Inc....Insert between 712-713
Glass Container & Cap Outlet Co....744
Glass Industries, Inc....Insert facing 733
Glycerine Producers Assn....775
Glyco Products Co....700
Goldschmidt Chemical Corp....Insert facing 705
Greeff & Co., R. W....786
Gunning & Gunning....798
Hagerty Bros. & Co....770
Helfrich Labs., Inc....Insert between 700-701
Hema Drug Co., Inc....798
Heyden Chemical Corp....Insert facing 708
Hooker Electrochemical Co....709
Hopkins & Co., J. L....783
Hormann & Co., F. R....770
House of Hollywood....784
Huisking & Co., Inc., Chas. L....792
Illinois Water Treatment Co....808
Industrial Chemical Sales....Cover 2
Inland Alkaloid Co....805
Innis-Speiden Co....806
Interstate Color Co., Inc....817
Intramed Co., Inc....796
Jelly & Co., Walter H....786
Kachurin Drug Co....794
Kelton Cosmetics Co....778
Kessler Chemical Co....778
Kimble Glass Co....Insert facing 680
Kohnstamm & Co., H....Insert facing 709
Kolmar Laboratories....Insert facing 704
Krim-Ko Company....798
Kurz-Kash, Inc....749
Leeben Chemical Co., Inc....816
Lemke & Co., B. L....782
Leonhard Wax Co., Theodor....816
Lever Brothers Company....779
L & K Laboratories....688
Lowe Paper Co....745
Lueders & Co., George....706
Lusteroid Container Co....749
Magnus, Mabee & Reynard, Inc....687
Mallinckrodt Chemical Wks....Insert facing 713
Malmstrom & Co., N. I....691
Martin Laboratories....694
Mayo-Reese Co....819
McKay-Davis Company....790
Merck & Co., Inc....681
Metal-Glass Products Co....746
Miranol Chemical Co., Inc....798
Monsanto Chemical Co....758
Montenier & Co., Jules....786
National Aniline & Chemical Co....812
National Can Co....682, 683
Naugatuck Aromatics....707
New England Collapsible Tube Co....677
New Jersey Machine Corp....769
N. Y. Quinine & Chemical Works....698
Norda Essential Oil & Chemical Co....684
Northwestern Chemical Co....794
Orbis Products Corp....754
Oxzyn Company....712
Package Machinery Co....760
Parento Co., Compagnie....Insert between 700-701
Paris Cosmetics, Inc....693
Parsons Imports, M. W....799
Penick & Co., S. B....Insert between 692-693
Pennsylvania Refining Co....802
Pfaltz, Harry E....787
Pfaltz & Bauer Co., Inc....819
Pfizer & Co., Inc., Chas....750
Pharmed Co., Ltd....819
Pittsburgh Lectrodryer Corp....766
Plaskon Division (Libby-Owens-Ford)....711
Polak & Schwarz, Inc....701
Powell & Co., Inc., John....813
Prentiss & Co., R. J....802
Pulverizing Machinery Co....807
Reconstruction Finance Corp....803
Remus & Co., Inc., Edward....815
Reynolds Metals Co....Insert facing 681
Robinson Wagner Co....783
Ross Co., A. H....771
Ross Engineering Corp., J. O....Insert facing 688
Ste. Genevieve Lime Co....810
Schimmel & Co., Inc....699
Seeley & Co., Inc....782
Seydel Chemical Co....817
Sherwood Refining Co....792
Standard Alcohol Company....799
Standard Oil Co. (Indiana)....679
Stange Co., Wm. J....819
Stanton Laboratories....782
Stevens-Wiley Mfg. Co....746
Stokes Machine Co., F. J....773
Strong, Cobb & Co....690
Sturge Ltd., John & E....Insert facing 685
Swindell Bros., Inc....741
Synfleur Scientific Labs., Inc....710
Syntomatic Corp....Insert between 692-693
Taylor Co., Charles T....800
Thurston & Braidich....779
Tombarel Products Corp....809
Trans-Pac Services, Inc....747
Ungerer & Co., Inc....Cover 3
U. S. Bottlers Machinery Co....772
U. S. Industrial Chemicals, Inc. Ins. bet. 756-757
van-Ameringen-Haebler, Inc. Ins. between 684-685
Vanderbilt Co., R. T....805
Van Dyk & Co....702
Verley & Co., Albert....Insert between 696-697
Viking Paper Co., The....704
Vorac Company, The....803
Wahlert Products Corp....770
Warner Brothers Co....740
Welch, Holme & Clark, Inc....787
Whittaker, Clark & Daniels, Inc....801
Will & Baumer Candle Co....784
Wolf & Co., Jacques....782

.....707
.....677
.....769
.....698
.....684
.....794
.....754
.....712
.....760
en 700-701
.....693
.....799
en 692-693
.....802
.....787
.....819
.....750
.....819
.....766
.....711
.....701
.....813
.....802
.....807
.....803
.....815
facing 681
.....783
.....771
facing 688
.....810
.....699
.....782
.....817
.....792
.....799
.....679
.....819
.....782
.....746
.....773
.....690
acing 685
.....741
.....710
n 692-693
.....800
.....779
.....809
.....747
.Cover 3
.....772
756-757
n 684-685
.....805
.....702
n 696-697
.....704
.....803
.....770
.....740
.....787
.....801
.....784
.....782

5: 56, 6